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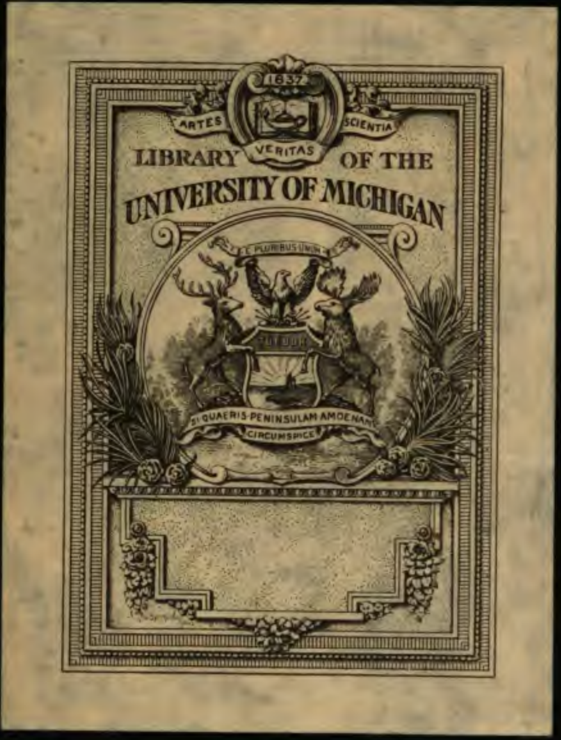
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ZEHDEN'S

COMMERCIAL GEOGRAPHY.

OPINIONS OF THE PRESS REGARDING THE FIRST EDITION.

There is little to be said regarding this book which does not readily fall into the form of eulogy. It is the best book on commercial geography which has yet appeared, and it will be of inestimable value to any genuine student of the subject.—**The Academy.**

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COMMERCIAL GEOGRAPHY
OF THE WORLD.

Tvv08Z

BY

DR. CARL ZEHDEN,
PROFESSOR IN THE HANDELS-AKADEMIE OF VIENNA.

TRANSLATED BY
FINDLAY MUIRHEAD, M.A.

WITH A MAP OF THE CHIEF TRADE ROUTES.

NEW EDITION, REVISED AND CORRECTED TO DATE.

LONDON:
BLACKIE & SON, LIMITED, 49 OLD BAILEY, E.C.
GLASGOW, EDINBURGH, AND DUBLIN.
1893.

NOTE TO NEW EDITION.

In introducing to the public this new and cheaper edition of Zehden's *Commercial Geography*, it is only necessary to state that the book has been carefully revised and many alterations and improvements introduced, the statistical and other information having been brought down to as recent a date as the available material would permit. It is hoped that these changes, combined with its generally recognized merits, will secure for it a renewal of public favour, and that it will now meet the wants of a larger class of students and readers than formerly.

May, 1893.

@ Sept. 3. 27. Y.O.

AUTHOR'S PREFACE.

I am exceedingly pleased to have an opportunity of prefacing a few words to the present English translation of my work on Commercial Geography.

Of that work, first taken in hand twenty years ago, five editions, representing 15,000 copies, have been demanded in Austria, Germany, and Switzerland; while even in other countries, of which the national language is not German, such as Sweden, Norway, Holland, and the United States of America (in German schools), it has been adopted as a medium of instruction in its subject. I may perhaps be justified in taking these facts as proofs that my method is one that has approved itself to some of the most advanced nations of the globe.

But I derive a peculiar satisfaction from the translation of my book into English, for if England includes it in the list of its books of instruction, that fact will practically be a letter of introduction to all quarters of the globe. I need not here recount in detail the contents of my work. Those who even glance through the volume will find that they have before them a piece of honest work, in which I have striven to convey geographical instruction in a form approved by practical experience. In the present age, when international commerce consists no longer in the peaceful exchange of the productions of the different zones, but is often a keen life-and-death rivalry between competing nations and continents, the educated merchant must learn to regard the world as an economic organism, in which each nation discharges the function that best accords with its economic development. I believe that my book owes much of its friendly reception to the attempt made in it to account for the economic position of each state by its physical character and by the ethnographic peculiarities and the degree of civilization of its people.

I trust that my labours will commend themselves to the English-speaking public, that has always endeavoured to accord to technical instruction its due place and privileges by the side of general culture.

PROF. DR. C. ZEHDEN.

VIENNA, *Dec. 22, 1888.*

Released Sept. 3-27. Y.O.

TRANSLATOR'S PREFACE.

The growing acknowledgment of the importance of systematic instruction in geography, and the want of any satisfactory work on Commercial Geography in English, are more than sufficient excuse for the present translation of one of the most successful and practical manuals on the subject. Dr. Zehden's book, first published in 1871, deservedly enjoys a high reputation. It has passed through five editions in German; it has been officially admitted to all the higher commercial schools in Austria; and it has already been translated, in whole or in part, into Polish, Portuguese, Italian, and Russian.

It is, however, more than a mere school-book. In the preface to the last edition the author remarks: "What the public now demand is a description of the earth; not a learned disquisition upon purely geographical problems, nor an account of geographical marvels, but a plain practical description of the earth. The practical needs of the present day require geography to depict the earth as the abode of mankind, and the various regions of the globe as the spheres of action of the various peoples. It must furnish us with an explanation of the agricultural, industrial, and commercial circumstances, of the poverty or wealth of each country, deduced from its situation, its climate, the nature of its surface, the character of its people, and its animal, vegetable, and mineral productions." The present book is an attempt thus to explain the connection between the economic conditions and the purely geographical peculiarities of the individual countries. Its practical value has been readily recognized by the enterprising commercial spirit which is growing on the Continent, and the work has made its way into numerous counting-houses and offices. It is hoped that it will do so also in English-speaking countries. The information it supplies, at once clear and definite yet not overladen with statistics that speedily become obsolete, is precisely what a merchant desires to possess about countries with which he may trade, or about commodities in which he may deal. It presents not merely a faithful account of countries as they now are, but also numerous indications of the course of their future development. The systematic arrangement of the work, its copious table of contents, appendices, etc., render it peculiarly easy of consultation.

The last German edition has been expressly revised by the author for the purposes of this translation, and the information has been brought down to date. Some considerable alterations have been found necessary in adapting the book for English readers; but for the general scope and proportion of the whole, and for the arrangement of the material, the author is entirely responsible. The sections on Great Britain and the British Colonies have been somewhat expanded from the German text; those on Austria-Hungary correspondingly abridged; a paragraph on the characteristics of the inhabitants of the North American Union has been omitted; and foot-notes have been added at various points. Of the *Appendices*, the first has been very considerably expanded from the German text, the other is altogether new. The double *Index* is a feature which is not found in the German edition.

It should, perhaps, be here noted that names of leading commercial or manufacturing towns and of articles (productions, exports, manufactures, etc.) of special importance are printed in *italics*.

LONDON, *28th Dec. 1888.*

CONTENTS.

Page
Introduction, 9

PART I.—MATHEMATICAL GEOGRAPHY.

Page
The Earth, 10
  Mathematical Divisions, 10
  The Motions of the Earth, 12
  The Seasons at Different Latitudes, 17
The Moon, 19
  Motion of the Moon, 19
The Stars, 21
Divisions of Time, 24

PART II.—PHYSICAL GEOGRAPHY.

Land and Water, 28
Land, 28
  Coast-line, 28
  Elevations and Depressions, 29
Water, 32
  The Sea, 32
  Waters of the Land, 40
The Air, 42
  Temperature of the Air, 42
  Winds, 45
  Rain and Snow, 49
  Climate, 51
Natural Products, 53
Mankind, 55
  Races of Men, 55
  Mental Differences among Mankind, 56
  Language, 57
  Religion, 58
  Degrees of Civilization, 59
Communications, 61
  Routes, 61
  Posts, Telegraphs, Railways, etc., 62
  Exchange, 63
  Markets and Fairs, 65
  Exchanges, 66
  Insurance, 66
The State, 66

PART III.—POLITICAL AND COMMERCIAL GEOGRAPHY.

EUROPE.

The British Empire, 69
  Great Britain and Ireland, 70
  Foreign Possessions of Great Britain, 104

In Europe:

Gibraltar, 104
Maltese Islands, 105

In Asia:

Cyprus, 105
British India, 106
Ceylon, 121
The Straits Settlements, 121
Labuan, 123
North Borneo, 123
Hongkong, 123
Aden, 124

In Africa:

British South Africa, 124
Mauritius, 131
The Seychelles, 131
Socotra, 131
St. Helena, 132
British West Africa, 132
British East Africa, 133

In Australia and Oceania:

Australia, 133
Tasmania, 144
New Zealand, 144
Fiji Islands and New Guinea, 146

In America:

British North America, 147
Bermudas, 155
British West Indies, 156
British Honduras, 158
British Guiana, 159
Falkland Islands, 159

Page

- **Holland** or **The Netherlands,** 160
  - Luxemburg, 172
  - Foreign Possessions of Holland, 173
    - *In Asia:*
      - Java and Madura, 174
      - The Outposts:
        - Sunda Islands, Sumatra, Borneo, Celebes, Riau, Moluccas, New Guinea, 177
    - *In America:*
      - Surinam, Curaçoa, 181
- **Belgium,** 181
- **Denmark,** 190
  - Dependencies and Colonies:
    - Faroe Islands, 194
    - Iceland, 194
    - Greenland, 195
    - Danish West Indies, 196
- **Sweden** and **Norway,** 196
  - Norway, 201
  - Sweden, 205
- **Germany,** 209
  - Prussia, 212
  - Saxony, 227
  - The Thuringian States, 232
  - Hesse, 233
  - Anhalt, 234
  - Brunswick, 234
  - Waldeck-Pyrmont, 235
  - Lippe-Detmold and Schaumburg-Lippe, 235
  - Oldenburg, 235
  - Mecklenburg-Schwerin and Mecklenburg-Strelitz, 236
  - The Hanse Towns, 237
    - Hamburg, 238
    - Bremen, 240
    - Lübeck, 241
  - Bavaria, 242
  - Württemberg, 249
  - Baden, 252
  - Alsace-Lorraine, 255
  - Foreign Possessions of Germany, 259
    - *In Africa:*
      - Togoland and Little Popo, 259
      - Cameroon, 259
      - Damaraland, 259
      - Great Namaqualand, 259
      - German East Africa, 259
    - *In Oceania:*
      - Kaiser Wilhelm's Land, 259
      - Bismarck Archipelago, 259

Page

- **Austria-Hungary,** 259
  - Bosnia and Herzegovina, 301
- **Switzerland,** 303
- **France,** 315
  - Foreign Possessions of France, 343
    - *In Africa:*
      - Algeria and Tunis, 344
      - Possessions in Senegambia, 348
      - Gaboon and Gold Coast, 349
      - Réunion, 349
      - Comoro Islands, 349
      - Obock, 350
    - *In Asia:*
      - Possessions in Hindostan, 350
      - Possessions in Indo-China:
        - Cochin-China, 351
        - Annam and Tonquin, 351
    - *In Oceania:*
      - New Caledonia, 352
      - Loyalty Islands, 352
      - Marquesas, 353
      - Tahiti, 353
      - Mangareva Group, 353
      - Tubuai and Tuamotu Islands, 353
      - New Hebrides, 353
    - *In America:*
      - St. Pierre, 354
      - Miquelon, 354
      - Martinique, 354
      - Guadeloupe, 354
      - French Guiana, 355
- **Spain,** 356
  - Foreign Possessions of Spain, 371
    - *In Africa:*
      - Ceuta, 371
      - Canary Islands, 371
      - West African Coast, 372
      - Fernando Po, 372
    - *In Asia:*
      - Philippine and Sulu Islands, 372
    - *In Oceania:*
      - Marianne, Caroline, and Pelew Islands, 374
    - *In America:*
      - Cuba, 374
      - Porto Rico, 377
- **Portugal,** 378
  - Foreign Possessions of Portugal, 381
    - *In Africa:*
      - Azores, 382
      - Madeira, 382
      - Cape Verde Islands, 382
      - Portuguese Guinea, 382

Page

- St. Thomé, - 383
- Principe, - 383
- Angola, - 383
- Mozambique, - 383

In Asia:

- Goa, - 383
- Daman and Diu, - 383
- Timor, - 383
- Macao, - 383

- **Italy,** - 384
  - Foreign Possessions of Italy, - 398
    - Assab, - 398
    - Arafali, - 398
    - Massowah, - 399
- **States on the Lower Danube,** - 399
  - Roumania, - 399
  - Bulgaria, - 403
  - Servia, - 406
  - Montenegro, - 408

Page

- **The Turkish Empire,** - 409
  - Turkey in Europe, - 410
  - Turkey in Asia, - 417
    - Asiatic Turkey Proper, - 417
    - Turkish Arabia, - 424
  - Turkish Protectorates in Africa, - 425
    - Egypt, with Nubia and the Egyptian Sûdan, - 425
    - Tripoli and Barca, with Fezzan, 432
- **Greece,** - 432
- **The Russian Empire,** - 438
  - Russia in Europe, with Poland and Finland, - 438
  - Russia in Asia, - 462
    - Caucasia, - 463
    - Siberia, - 467
    - Russian Central Asia, - 473

ASIA.

- **The Chinese Empire,** - 476
  - China Proper, - 476
  - Manchuria, - 485
  - Mongolia, - 485
  - Tibet, - 486
  - Zungaria, - 487
  - Eastern Turkestan, - 487
- **Corea,** - 487
- **Japan,** - 488
- **Siam,** - 493
- **Persia,** - 494
- **Afghanistan,** - 494
- **Baluchistan,** - 494
- **Kafiristan,** - 494
- **Independent Arabia,** - 501

AMERICA.

- **The United States,** - 503
  - Alaska, - 533
- **Latin America,** - 534
- **Mexico,** - 536
- **Central American Republics,** - 542
  - Guatemala, - 543
  - San Salvador, - 543
  - Honduras, - 543
  - Nicaragua, - 543
  - Costa Rica, - 543
- **South America,** - 545
- **Brazil,** - 545
- **The Argentine Republic,** - 553
- **Paraguay,** - 553
- **Uruguay,** - 553
- **Chili,** - 556
- **Bolivia,** - 558
- **Peru,** - 558
- **Ecuador,** - 558
- **Colombia,** - 561
- **Venezuela,** - 563
- **Hayti,** - 564

AFRICA.

- **Morocco,** - 566
- **The Sahara,** - 568
- **Central and Southern Africa,** - 569
- **Senegambia and Upper Guinea,** 573
- **Sûdan or Nigritia,** - 573
- **The South African Triangle,** - 575
  - Lower Guinea; Kaffirland; Orange Free State; Transvaal Republic; Swahili Coast; Somali Lands; Galla Lands, - 575
- **The Congo State,** - 577
- **Abyssinia,** - 579
- **Islands of Africa,** - 579
  - **Madagascar,** - 579

OCEANIA.

	Page		Page
Hawaii or Sandwich Islands,	581	**Samoa and Tonga Islands,**	582

Appendix I. Some of the principal Steamship Companies of the World, - - 584

Appendix II. Railway Guides and Time-tables for the principal Countries of the World, - - - - - - - - - - - - - 590

Map of the Chief Trade Routes, - - - - - - - - - - (*facing*) 592

Index of Places, - - - - - - - - - - - - - - - - 593

Index of Products and Manufactures, - - - - - - - 598

COMMERCIAL GEOGRAPHY.

INTRODUCTION.

The Earth is the abode of man. How long he has inhabited it is unknown; but thousands of years passed before he learned the true position and actual conditions of his dwelling-place, before he recognized that his globe was but a grain of sand in the universe.

The science which teaches us these conditions is called *Geógraphy* (lit., description of the earth). It is divided into three great parts:

1. *Astronomical* or *Mathematical Geography*, treating of the earth as a heavenly body among other heavenly bodies.
2. *Physical Geography*, treating of the natural condition of the earth.
3. *Political Geography*, treating of the earth as the abode of man, and as the scene of his intellectual and moral development.

PART I.

MATHEMATICAL GEOGRAPHY.

For thousands of years men believed that the earth, the sun, the moon, and the stars were exactly what they appear to the naked eye to be. The earth was regarded as a flat surface, spanned by the vault of heaven, which was set with innumerable little stars, while the sun, moon, and other constellations were believed to move in regular paths upon the surface of the vault.

By and by the spherical form of the earth was recognized, but the globe was still conceived to be the fixed centre of the universe, about which sun, moon, and stars revolved. The most complicated theories were adopted to explain how this apparent motion of the sun accounted for the recurrence of day and night, the seasons, and other similar phenomena. It was not until the 16th century that the true relations of these motions, with their necessary consequences, were discovered by the learned canon, *Nicolas Copernicus.* He, and still more conspicuously, *Joannes Kepler,* proved beyond a doubt that the sun, and not the earth, is stationary, and that the earth, the moon, and the other planets revolve in regular orbits round the former.

Sir Isaac Newton, who discovered the law of gravitation, and other later astronomers, revealed to us the wonderful order that rules the planetary system.

THE EARTH.

MATHEMATICAL DIVISIONS.

The Horizon.—Whenever we find ourselves in a free and open space, the sky all around seems to touch the earth. The circle thus formed, the boundary line between the earth and sky, is called the *Horizon.* The observer is, naturally, always at the centre of the circle, and the higher his standpoint, the wider the circle is, *i.e.* the greater the field of vision.

At	330 ft.	above the sea-level	we command	a radius	of	9	geog. miles.
„	3,300	„	„	„	„	34⅜	„
„	33,000	„	„	„	„	109⅞	„
„	66,000	„	„	„	„	155⅛	„

Four principal or cardinal points in the horizon are selected as standards of direction. The region in which the sun attains its greatest daily altitude is the *South* (mid-day), and directly opposite is the *North* (midnight). The point lying 90° to the left of the south is the *East* (morning), and directly opposite that again is the *West* (evening). On March 21st and September 23rd the sun rises at the east and sets at the west point.

The four cardinal points lie 90° apart from each other, and the arcs between them are subdivided by the minor points of the compass; north-east, north-north-east, etc. The point vertically above our head is known as the *Zenith;* that vertically beneath our feet as the *Nadir.*

The Poles—The Equator.—Since the earth is spherical in shape, two points on its surface must remain at rest when it revolves; these points are known as the *North Pole* and *South Pole.* The line uniting them, 6852 geographical miles in length, is the *Earth's Axis.* The circle which surrounds the earth at an equal distance from both poles (*i.e.* 90° at all points on the circumference) is known as the *Equator* (equalizer) or the *Line,* because it divides the globe into two equal hemispheres, a northern and a southern. The equator, which is 6876 geog. miles in diameter, and 21,600 geog. miles in circumference, is the largest circle that can be drawn round the earth. For convenience in reckoning, the equator is divided into 360 degrees, subdivided into 60 minutes of 60 seconds each. The sixtieth part of such a degree equals 1 geographical or nautical mile[1] = 1·15 English statute mile = 1·855 kilomètre. The earth is slightly flattened at the poles, and swells somewhat at the equator; its shape is not that of a regular sphere, but of a spheroid. Its surface has an area of 196,712,000 square statute miles.

Parallels.—The imaginary circles described about the earth, parallel to the equator, are called *Parallels of Latitude.* The *Latitude* of a point is its distance from the equator (north latitude, south latitude); *e.g.* Vienna lies at 48° N. lat., *i.e.* the parallel circle imagined to pass through Vienna is 48° to the north of the equator.

Meridians are imaginary circles passing through both poles and intersecting the equator and all parallels of latitude at right angles. They are employed in defining the *Longitude* of a point, *i.e.* its distance to the E. or W. of a first or *Prime Meridian,* which must, of course, previously be determined. At one time the universally accepted prime-meridian was that of Ferro (one of the Canary Islands), which had been selected by Ptolemy (150 A.D.). Subsequently, however, other meridians came into use, as those of Greenwich, Paris, Pulkova, Washington, etc. The meridian of Greenwich is 17° 39′ 51″, and the meridian of Paris 20°, to the E. of Ferro. In recent times attempts have been made to secure the adoption of the meridian of Greenwich as the one universal prime meridian. When the latitude and longitude of a place are given, its geographical position is accurately defined.

---

[1] The German geographical mile is equal to 4 English geographical miles. Throughout the present section distances are calculated in English geog. miles.—TR.

The heavens are divided by meridians and parallels in exactly the same manner as the earth.

In 1790 the *mètre*, or the ten-millionth part of a quadrant (*i.e.* the quarter of a meridian-circle), was adopted as the basis of the metric system.[1]

THE MOTIONS OF THE EARTH.

The earth has a double motion:

1. A daily motion round its own axis;
2. An annual motion round the sun.

1. **Daily Motion.**—The earth revolves, from west to east, round its own axis once in 24 hours (1 day). Since we, however, detect no trace of this motion, it appears as though the earth stood still, and as though the sun moved in the opposite direction, *i.e.* from east to west.

It naturally follows from the spherical shape of the earth that, as it revolves on its axis, one-half is always illumined by the sun and the other half is in darkness. As any particular point, *e.g.* Vienna, approaches the sun, there must of course arrive a particular moment at which it enters the lighted half of the earth. We say the "sun is rising" when we are so approaching it.

As the earth continues to revolve the particular point is brought directly opposite the sun; we then say "the sun has reached its greatest altitude" (mid-day).

---

[1] Meridian degrees and degrees on the equator are each 60 geog. miles in length. The degrees on the parallels of latitude decrease in size the farther the parallel is from the equator; thus at 10° of latitude the degree is 59·2 geog. miles, at 30°, 52 miles, at 47°, 40 miles, at 55°, 34·4, at 65°, 25·2, at 80°, 10·4, and at 90°, 0 geog. miles. The parallels of latitude and meridians are innumerable.

But the earth continues to revolve, so that our point is turned farther and farther from the sun, until at length it entirely quits the lighted half, and we say "the sun is setting" (evening).

While our point is traversing the unlighted half, it is night at that point; and at the moment when it is farthest from the sun, we say that the sun has reached its least altitude (midnight).

It is mid-day at exactly the same moment at all places on the same meridian. And since the earth revolves from west to east, 360° in 24 hours, *i.e.* 15° in 1 hour, it is mid-day at any particular point 1 hour sooner than at all other points lying 15° farther to the east. In this way a difference of 1° in longitude implies a difference in time of 4 minutes. (Chronometers are used to measure differences of longitude.)

For convenience in international transactions it has recently been proposed to adopt as the *Universal Time* the time at some one fixed meridian (that of Greenwich); but local time must also, of course, continue to be recognized.

2. **Annual Motion.**—We meet similar deceptive phenomena in the annual motion of the earth round the sun, as we met in its daily revolution round its own axis. We think of the earth as stationary, whereas in reality it is revolving round the sun with extraordinary rapidity. The deception arises from the fact that our senses do not detect anything of this motion.

The orbit of the earth, like that of all planets, is an ellipse, one focus of which is occupied by the sun.

The average distance of the earth from the sun is nearly 80 million geog. miles. On January 1st the earth is nearest the sun, *i.e.* in perihelion; it is farthest from the sun, *i.e.* in aphelion, on July 2nd. It revolves with greater rapidity in perihelion than in aphelion; its average rate is about 16 geog. miles in one second.

The period which the earth takes to describe a complete revolution round the sun, returning exactly to the point whence it started, is called a *Solar Year.* At present that is 365 days, 5 hrs. 48 min. and 48 sec.

During this period the sun, as seen from the earth, seems to have followed a circular path in the heavens from west to east, known as the *Ecliptic.* In the course of this path it passes by a series of twelve constellations, most of which are named after animals, whence the path is also called the *Zodiac* (animal-path). The names of the signs of the zodiac are as follows:—

Aries, the Ram, ...	♈	*Libra*, the Balances, ...	♎
Taurus, the Bull, ...	♉	*Scorpio*, the Scorpion, ...	♏
Gemini, the Twins,	♊	*Sagittarius*, the Archer,	♐
Cancer, the Crab, . .	♋	*Capricornus*, the Goat, ...	♑
Leo, the Lion, ...	♌	*Aquarius*, the Water-carrier,	♒
Virgo, the Virgin, ...	♍	*Pisces*, the Fishes, ...	♓

If the axis of the earth were perpendicular to the plane of the earth's orbit, the sun would always be vertically above the equator, and there would be no variation in the *Seasons*, or in the length of the days and nights. The variation which exists has a double cause:—

1. The position of the earth's axis diverges by 23½° from the perpendicular; or, in other words, it is inclined to the plane of the earth's orbit at an angle of 66½°.

2. Throughout the entire revolution of the earth round the sun, the earth's axis remains constantly parallel with itself (Parallelism of the earth's axis).

Without these conditions it would be impossible to have what we call the seasons, with their variations at different latitudes.

The explanation is very simple.

We must represent to ourselves the orbit of the earth, with the sun in one of the foci, and the earth moving in that orbit with its axis inclined to it at an angle of 66½°. One of the innumerable rays which reach the earth from the sun must strike it perpendicularly; this we shall call the central ray.

1. On March 21st the earth occupies such a position in its orbit that the central ray strikes the equator on the earth, so

that the illumined hemisphere is exactly bounded by a meridian circle, *i.e.* in other words, both poles fall within the illumined hemisphere. All the parallels of latitude are half in the dark, half in the light hemisphere, so that on March 21st at all points on the earth the day and the night must be equal (12 hours). We call this day the *Vernal Equinox.* The sun is then in the sign of Aries or the Ram.

2. The earth continues its path about the sun, its axis remaining constantly parallel with itself. It thus follows that the north pole must be turned more and more in the direction of the sun, until it attains its greatest inclination in this direction on June 21st.

The central ray no longer strikes the equator, but a point 23½° to the N. of it.

The boundary of the lighted hemisphere no longer passes through the poles, but the north pole, together with all points within 23½° of it, lies wholly within the lighted hemisphere, while the south pole, with all points within 23½° of it, lies wholly without it.

The parallels of latitude are no longer divided in half by the boundary of the lighted hemisphere, but to the N. of the equator more than half, and to the S. less than half of these parallels fall within the lighted hemisphere.

In other words, June 21st is the period of the longest days and shortest nights in the northern hemisphere, and of the shortest days and longest nights in the southern hemisphere. Similarly as regards temperature; in the northern hemisphere it is summer, and in the southern it is winter.

The parallel of latitude lying 23½° to the N. of the equator is the most northerly parallel to which the sun ever stands perpendicular, and since on June 21st the sun is in the sign of Cancer or the Crab, that parallel is called the *Tropic of Cancer.*

3. By September 23rd the earth has described a farther arc of 90° on its course, and reaches a point exactly opposite the point which it occupied on March 21st.

The central ray once more falls on the equator, and the boundary of the lighted hemisphere once more passes through both poles, so that exactly the same phenomena are presented to us as on March 21st. We call this day the *Autumnal Equinox.* The sun is then in Libra or the Balances.

4. The earth goes on beyond this point, its axis still remaining constantly parallel with itself, so that the south pole is turned more and more in the direction of the sun, until on December 22nd it attains its greatest inclination in that direction.

We now find phenomena exactly contrary to those of June 21st. The north pole, with all points within 23½° of it, is now in darkness, and the south pole is in the light.

In the southern hemisphere we have the longest days and summer; in the northern hemisphere the longest nights and winter.

Since the sun is in the sign of Capricorn or the Goat on December 22nd, the parallel of latitude lying 23½° to the S. of the equator is called the *Tropic of Capricorn.*

In this examination we have become acquainted with four highly important circles:

1. The two *Tropics,* lying 23½° from the equator, and respectively the most northern and the most southern parallel at which the sun ever occupies the zenith.

2. The two circles up to which total darkness is possible either on June 21st or December 22nd. These circles lie 23½° from the poles, and are named the *Polar Circles* (Arctic Circle, Antarctic Circle); they are respectively the N. and the S. boundary of the region of the earth's surface within which the change from day to night actually takes place daily.

The four circles serve as the boundary-lines for five *Zones,* or mathematical climatic girdles encircling the earth, within each of which the duration of the seasons, day and night, etc., are similar, and the conditions of temperature partly so. These zones are:—

The *Torrid Zone* or the *Tropics,* between the tropical circles;

Two *Temperate Zones,* between the tropics and the polar circles;

Two *Frigid Zones,* between the polar circles and the poles.

We shall now examine the *Apparent Course* described by the sun in the space of a year. The ecliptic is inclined to the equator at an angle of 23½°, because the earth's axis deflects 23½° from the perpendicular. It intersects the celestial equator at two points, viz. at the sign of Aries and at the sign of Libra. The former of these points is occupied by the sun on March 21st. From that date onwards the daily circles of the sun retreat steadily from the equator, until on June 21st the sun reaches the sign of Cancer, its most northern point, 23½° to the N. of the equator. The sun appears to stand still at this point for a few days before it begins to return southwards to the equator, a fact which confers upon this point the name of Summer Solstice. The sun now returns towards the equator, and on September 23rd, when it enters the sign of Libra, it is once more vertically above the equator. During the next three months the sun approaches the southern tropic, which it reaches on December 22nd, entering at the same time the sign of Capricorn (Winter Solstice). Between December 22nd and March 21st the sun once more returns to the equator.

THE SEASONS AT DIFFERENT LATITUDES.

After the above explanations it is easy to determine the position and the influence of the sun at the various latitudes. We give here a few examples:—

1. **Torrid Zone.**—In this zone we select the *Equator*.

At the equator the rays of the sun descend always perpendicularly or nearly so, whence arises the great heat which prevails all the year round. The seasons are the dry season and the wet (rainy) season.

The days and nights are all of equal length, because all the daily circles are divided in half by the horizon. The twilight is very short.

The nights are comparatively cool. At noon a person casts no shadow.

The great heat and strong light foster a luxuriant vegetation, distinguished by gorgeous colouring.

2. **North Temperate Zone.**—*Vienna*, 48° N. latitude.

The rays of the sun can no longer fall perpendicularly, for the most northerly parallel at which that is possible is the northern tropic. Thus the heat is not so great in this zone as farther south.

On the other hand the winter is distinctly cold, because the sun at that season attains only a slight elevation above the horizon, so that its rays fall very obliquely on the earth.

The difference between the temperatures of winter and summer is so great that between these seasons, two transition seasons—viz., spring and autumn—are inserted.

The temperate zones have four seasons, while the torrid and the frigid zones have only two.

The days vary in length. The shortest day is December 22nd (8 a.m. to 4 p.m.), the longest is June 21st (4 a.m. to 8 p.m.).

At noon shadows fall towards the north. The vegetation is less luxuriant than in the tropics.

3. **Frigid Zones.**—The rays of the sun fall here very obliquely, so that cold and winter prevail. The summers in this region, though short, are comparatively warm, because, as we have seen above, this portion of the earth's surface is exposed to the sun's rays for months at a time almost without interruption, a fact which makes up for their weakness. Spring and autumn, as seasons, entirely disappear in these latitudes; they shrink into tempestuous transition periods of a few days each.

The vegetation is exceedingly monotonous. White and gray are the prevailing hues both in plants and wild animals.

The farther we proceed from the polar circles in the direction of the poles, the more pronounced these characteristics become. At 70° N. lat., the sun does not set during a period of 65 days, at 80° during 134 days, at the north pole during 186 days. In winter almost equally long periods pass without the sun rising at all. The consequence is that there are periods of cold of −76° Fahr., which destroy every vestige of higher plant life that the short, warm, summer may have called into being.

The long winter nights are tempered and to a certain degree shortened by the *Aurora Borealis* (northern lights), and still more so by the long *Twilight.* At 70° N. lat. the day lasts without interruption from May 20th to July 23rd, while the night, lasting from March 30th to September 12th, is lighted, though faintly, by twilight. At the pole the actually dark night lasts only 90 days.

THE MOON.

Next to the sun the moon is the most important heavenly body with reference to the earth. Its very perceptible influence upon the latter is most conspicuous in the phenomena of the night and in the ebb and flow of the tides.

The average distance of the moon from the earth is 207,644 geog. miles. Its diameter is 1872 geog. miles, so that is about $\frac{1}{50}$ of the size of the earth; its superficies approximately equals that of America. The moon is destitute of water and of atmosphere; its surface is occupied mainly by mountains, though it also has large plains, which were at one time taken for seas. The lunar mountains are in few cases arranged in chains or large masses, like those of the earth; the prevalent form is that of circles or rings (craters), many of which are 120 miles in diameter. Some of the mountains are 24,000 ft. (4 geog. miles) high, *i.e.* very much loftier in comparison than the mountains on the earth. The form of the moon does not appear to us to be constant like that of the sun; it is subject to an (apparent) continual change.

It is not astonishing that men at a very early period turned their attention to this remarkable heavenly body, and made use of its appearances as a measure of time.

MOTION OF THE MOON.

The moon has a threefold motion.

1. It revolves on its own axis.
2. It revolves round the earth.
3. It revolves with the earth round the sun, for which, of course, it requires a year.

For the two first-named motions the moon requires 27 days, 7 hours, 43 minutes, and 12 seconds. The moon does not actually revolve on its own axis, but only constantly turns the same side towards the earth, so that by the time it has completed one revolution round the earth, it has turned once on its own axis.

Of the three motions, that round the earth is the most important and interesting to us here.

To accomplish one revolution round the earth, the moon requires 27 days, 7 hours, 43 minutes, and 12 seconds, or one sidereal month. Since during this period the earth has not, of course, remained stationary, but has advanced on its course, the moon has had to follow it. And before the moon can arrive exactly opposite the point on the earth, opposite which it was a month before, two extra days are required.

The space of time, therefore, required by the moon to describe a revolution round the earth so as to reappear opposite a given point is 29 days, 12 hours, and 49 minutes, or one synodic month.

Twelve synodic months form a lunar year of 354 days.

Lunar Phases.—During this revolution the appearance of the moon is, as is well known, constantly undergoing changes, described by the expressions, waxing and waning.

The astronomical term for these alterations is *Phases*, and we shall now explain them.

1. The moon does not possess any independent light any more than the earth. Like the earth it is dependent on the sun for light.

2. The moon moves round the earth, but also, along with the earth, round the sun.

The various phases of the moon, of which four are specially important, arise from its position relatively to the earth and the sun. In comparison with the earth and the moon the sun is so enormous[1] that we may conceive the sun's rays as all falling perpendicularly upon the two former.

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[1] The diameter of the sun is 772,000 geog. miles, *i.e.* 112 times the diameter of the earth. If we could imagine the sun a hollow sphere and the earth at its central

When the moon is between the sun and the earth, the side of the former that is turned away from us is lighted by the sun, and the side turned towards us is dark. We then say it is the period of the *New Moon.*

As the moon continues on its course from west to east, in 7 days it reaches a point 90° from its previous position. The side turned towards the sun is still lighted, but from the earth we see only one-half of this side, *i.e.* one-quarter of the entire moon, and we say the moon is in its *First Quarter.*

When the moon has reached a point 90° still farther, *i.e.* a point opposite the first point of all, the side turned towards the sun will still be lighted, and as that is now also turned towards us we see the whole illuminated disc, and say the moon is *Full.*

In 7 days more the moon advances other 90°; and here again we see only one-half of the lighted side, and say the moon is in its *Last Quarter.*

Eclipses of the Sun and Moon.—If the moon's orbit and the earth's orbit were on the same plane, every time that the new moon came exactly between the sun and the earth, its shadow would fall upon the earth, the sun would be partly or wholly obscured, and in this way an *Eclipse of the Sun* would take place. Similarly the earth would regularly intervene between the sun and full moon, and produce an *Eclipse of the Moon.* But the moon's orbit is inclined to the earth's orbit at an angle of 5½°, intersecting it at two points, known as the nodes. Eclipses, therefore, can take place only when the moon, at the phases of new moon or full moon, is exactly at one of the nodes, or very near it.

THE STARS.

We behold in the sky many other heavenly bodies besides the sun and the moon. Some of these alter their positions relatively to the others, but most of them apparently retain their

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point, there would not only be room for the moon to revolve round the earth at its distance of 207,000 miles, but there would still be a margin of 160,000 geog. miles between the moon and the surface of the sun.

relative positions. The latter are called *Fixed Stars;* the former, called *Wandering Stars*, embrace the *Planets* and the *Comets.*

The **Fixed Stars** are divided into various classes according to their size and brilliancy; we speak of fixed stars of the first, second, third, etc., magnitude. With the naked eye we cannot see stars of less than the sixth magnitude.

The number of these stars is enormous, but we see only a small proportion of the total. A good eye can see about 6000 separate stars, but only at the equator.

Some of the fixed stars have received separate names, others are grouped together into constellations under a common name, *e.g.* the seven stars forming the Great Bear. The most important constellations are those of the Zodiac. There are now upwards of 100 recognized constellations; the ancients had only 48, as the southern hemisphere was unknown to them.

The following are the distinctive characteristics of fixed stars:—

1. They do not essentially alter their positions relatively to each other.

2. They are the source of their own light.

3. They appear, even to the telescope, as mere points, on account of their distance from the earth.

The distance of the fixed stars from the earth is enormous. Sirius, one of the nearest, is 40 billion miles distant; and perhaps the same space separates the fixed stars from each other.

A good eye can see twelve times the distance of Sirius. Herschel saw 700 times that distance by means of his reflecting telescope.

This same improved instrument has also revealed to us that the Milky Way is composed of innumerable small fixed stars—a universe of fixed stars—from which light takes 2000 years to reach us. Nor is that all. The nebulæ and clusters of stars, resembling the Milky Way, are immeasurably distant; even viewed by the strongest telescope they present the appearance of a vapour. It is evident that from such distant spots light, travelling even at the rate of 168,000 miles per second, must take hundreds and thousands of years to reach our earth.

The **Planets** have no light of their own. The larger of them, viewed through the telescope, appear not as points but as discs. They all revolve round the sun, and many of them are attended by moons or satellites.

The distances of these stars from the sun, and the periods they take to revolve round it, are different in each case. The farther a planet is from the sun, the longer it takes to complete a revolution.[1]

The Earth	has	1	moon.
Jupiter	„	4	moons or satellites (and a small fifth).
Saturn	„	8	„ „ „ besides several rings round its equator.
Neptune	„	1	„ „ „
Mars	„	2	„ „ „

The four first planets (Mercury, Venus, Earth, Mars) are called the interior planets; they revolve on their axes at the same rate (once in 24 hours). The others are called the exterior planets; their rate of rotation is much more rapid.

The ancients knew only six planets, in which number they included the sun.

Comets are stars which appear at intervals on a fixed horizon and then again disappear. They approach more closely to the sun than any of the planets do, and, on the other hand, often recede much farther from it than the planet Neptune. They consist of a nucleus, a nebulous envelope, and a tail. The nucleus and the tail are sometimes wanting, but the nebulous envelope, which has often attained the size of the sun (146 B.C.), is always present. The tail is sometimes long and sometimes short, occasionally it is forked. It is so fine that we can

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[1] **Distances and periods of the planets:—**

Mercury........	**32**	**million**	**miles**	**distant,**	**takes**	**88 days in round numbers.**
Venus..........	**60**	„	„	„	„	**224 „**
Earth	**80**	„	„	„	„	**365 „ = 1 year.**
Mars............	**128**	„	„	„	„	**1 year and 321 days.**
Asteroids.......	**1000**	„	„	„	„	**3½–6½ years.**
Jupiter.........	**432**	„	„	„	„	**11 years 315 days.**
Saturn.........	**788**	„	„	„	„	**29 „ 167 „**
Uranus.........	**1586**	„	„	„	„	**84 „ 6 „**
Neptune........	**2484**	„	„	„	„	**164 „ 216 „**

see through it to the stars beyond. As a general rule, comets expand to an extraordinary degree as they approach the sun, and contract as they recede from it. About 660 comets are now known, though many more must exist. The courses of 150 of these, and the periods of revolution of 68, have been calculated.

Falling Stars and **Meteors**, according to Humboldt, are small bodies, aggregations of cosmic matter, which revolve round the sun somewhat quicker than the earth, partly in groups and partly isolated. When the earth meets them in its course, these small bodies are visible to us, and we call them falling stars. If they approach too near to the earth, they are attracted by it, and fall upon its surface as *Meteorites* or *Aerolites.* These introduce no new matter into the earth, but only what has been known before, a proof that the whole solar system is made of the same material. (Theory of Kant and Laplace.)

DIVISIONS OF TIME.

The heavenly bodies presented to mankind a basis for reckoning the divisions of time.

The rising and setting of the sun prompted the conception of *Day* and *Night;* little observation was required to reach this step.

The second important stage was suggested by the appearances of the moon and its four chief phases.

The regular course of the moon dictated the length of the *Month* (moon) and the *Week.* Even for this stage little observation was necessary. Much more was required to discover the third great standard of time, the *Year*, which was derived from the apparent revolution of the sun round the earth in the ecliptic.

These three standards (day, month, year) are recognized among all peoples, however much they may vary in details.

1. **The Day.**—The day is divided into the day proper (daylight) and the night. These two together form the civil day,

which begins at midnight. For astronomers the day begins at mid-day; for the Jews at sunset.

There are 24 hours in the day, each subdivided into 60 minutes of 60 seconds.

The hours are of equal length, and are now measured by means of clocks (invented in the 14th cent.), the dials of which were at one time divided by figures into 24 parts, though now into 12.

2. **The Week.**—The week is a very ancient division of time, but it has not always consisted of 7 days, the period of a lunar phase.

Among the Romans the week had 8 days, among the Egyptians and in France under the Revolution it had 10 days. The separate days of the week were named by most nations after the planets, as was the custom at Rome. The German peoples, however, have borrowed only some of these names. The Jews distinguish the days by the letters of the alphabet.

3. **The Month.**—The period of a month is defined by the revolution of the moon round the earth, and in nearly every case the synodic month of 29½ days is selected for this purpose. But as this number is inconvenient, since the second month cannot well begin in the middle of a day, two such periods or 59 days are taken together and are reckoned as one month of 30 days and one of 29 days. Twelve such lunar months form the lunar year of 354 days. Many nations still reckon after this method.

We, however, reckon by solar years of 365 or 366 days, divided into 12 periods which we call calendar months. These months have 30 or 31 days (February less).

We now count the days of the month in regular numerical order from the first to the last; but formerly other methods were adopted; *e.g.* the Roman method, and the method of naming the days after saints.

The modern names of the months are borrowed from the Romans; though some modern nations also retain some old native names.

4. **The Solar Year.**—Our solar year is the period taken by the sun to complete one revolution in the ecliptic. It begins in spring, one of the points of intersection of the plane of the ecliptic with the plane of the equator.

In antiquity this period was reckoned at only 365 days—a period so far short of the truth that the calendar was always at loggerheads with the celestial phenomena.

Julius Cæsar reckoned the year at 365 days 6 hours. But as the year could not well begin in the middle of a day, the odd 6 hours were disregarded for 3 years and added to the 6 hours of the fourth year to make 24 hours, or one whole day, so that every fourth year came to have 366 days. This process was known as intercalation; every fourth year is a leap-year or bissextile. This arrangement of Cæsar's would have been quite accurate had the year actually consisted of 365 days and 6 hours. In reality it consists only of 365 days 5 hours 48 min. 48 secs. The consequence was that Cæsar every year took 11 min. and 12 sec. too much, and in 130 years that amounts to one whole day. The Julian year was too long.

The Julian system prevailed all through the middle ages, so that by the 16th century the common reckoning was 10–11 days behind the celestial phenomena. In 1582, therefore, Pope Gregory XIII. introduced the Gregorian calendar, which almost entirely corrected the errors of the Julian calendar by an improved method of intercalation, while at the same time the general system of the latter was retained. According to the Gregorian calendar, by which we now reckon, intercalation takes place in the case of century-years only when the number of the hundreds forms an exact multiple of four.[1]

The *Russians*, and all nations belonging to the Greek Church, still reckon by the Julian calendar (old style), so that they are 12 days behind our reckoning (new style). In the year 1900 they will be 13 days behind.

In order to keep clear the succession of the various years, so that events may not in a short time become hopelessly confused, each separate year must be distinguished by some particular symbol, belonging to no other year in the whole series.

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[1] Thus 1700, 1800, 1900 are not leap-years, but 1600, 2000, 2400, etc., are. The Gregorian calendar was not adopted in England until 1752, in which year the days between Sept. 2nd and Sept. 14th were dropped.—Tr.

The best and simplest symbols are offered by the ordinary numbers. But before we can distinguish the years by successive numbers, we must fix upon some one year to be the first of the series. Such a first year is called an *Epoch* or *Era*, and nations in selecting their epochs always chose some important event in their history.

The *Romans* reckoned their years from the founding of their city, calculated to have taken place in 753 B.C. They also named the years after the names of the consuls in power, and later they counted by the years of the different emperors' reigns.

The *Jews* reckon from the creation of the world, which they place in 3761 B.C.

Christians reckon from the birth of Christ. This system was instituted by the Roman abbot Dionysius Exiguus in 532 A.D. He placed the birth of Christ in the year 754 after the founding of Rome, which, however, is now known to be a mistake. Christ was born in the year of Rome 745 or 747, so that our epoch is 6 or 8 years too late.

The *Mahometans* date their years from the Hegira, or flight of Mahomet from Mecca to Medina, on July 16th, 622 A.D., and they reckon by lunar years of 354 days. As the years are thus 11 days shorter than ours, they will in course of time overtake us in number of years, though they have begun later.[1]

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[1] In Bosnia, among other places, the Julian, Gregorian, and Mahometan calendars are all in simultaneous use.

PART II.

PHYSICAL GEOGRAPHY.

LAND AND WATER.

The surface of the globe consists partly of land, partly of water, so distributed that about three-fourths are covered by the latter, and only about a fourth by land. The northern hemisphere contains the most land, the southern the most water. The large connected masses of land are called *Continents;* the deep depressions between and around them are occupied by the *Ocean.*

I.—LAND.

There are five continents; four in the eastern and one (America) in the western hemisphere.

The phrase "the Old World" is often used to describe Europe, Asia, and Africa, in contradistinction to "the New World" of America discovered much later.

I. Coast-line.—Each continent consists of a main body or trunk, about which some geometrical figure may be described, and of various parts projecting into the sea, as the arms and legs project from the human trunk (peninsula, promontory or cape, isthmus).

This irregularity in the outline of a country is of great importance for the civilization of its people. Europe has more of these projecting parts or members than any other continent, and it has also the highest civilization. Africa is almost destitute of such members, and therefore has also the lowest civilization.

Portions of land wholly surrounded by water are called *Islands* (lofty and flat islands, atolls or lagoon-islands).

The margin of the dry land, which is washed by the sea, is called the *Coast, Shore, Strand.* A difference is drawn between elevated and low-lying coasts. The former are often favourable to trade and commerce by abounding in good harbours. The flat sandy shore, not covered by the sea, is called *Beach.* When the sand is fine and loose *Dunes* often arise, *i.e.* long rows of sand-hills, shifting under the influence of the wind, and continually tending to spread inland.

The inlets of the sea into the land are called *Bays, Gulfs, Bights, Fiords, Lochs, Loughs.* When a bay offers a complete protection to shipping against storms it is called a *Haven*, but if it only affords good anchorage it is called a *Roadstead* or *Roads.* Havens may be natural or artificial (*Harbour, Port*). Most of the important seaport towns owe their prosperity to the favourable outline of the coasts in the vicinity.

The coast is exposed to a constant process of disintegration; wind, rain, and, above all, the beating of the waves, all work to modify its outline. The amount of material thus removed from the coast-line of the English Channel is estimated at several million tons. The entire Zuiderzee has come into being within historical times. But the material thus won by the sea is to some extent deposited at other points, and so serves to build up fresh lines of coast elsewhere.

II. Elevations and Depressions.—Besides the lateral or horizontal divisions of the dry land, we must also take into account its vertical elevation.

Every point may be said to have two elevations.

1. Its *Absolute Elevation*, or its elevation above the sea-level, *i.e.* the height at which it would be if brought directly over the sea.

2. Its *Relative Elevation*, or its elevation relatively to some other point. Thus the absolute elevation of the Leopoldsberg at Vienna is 1472 ft., and its relative elevation, relatively to the Stephansplatz, is 927 ft., because the latter has itself an absolute elevation of 545 ft. The barometer, as is well known, is used to measure elevations.

Tracts of land which are over 1000 ft. above the sea-level are generally called *Highlands* or *Uplands;* those below 1000 ft. are called *Lowlands.*

When a tract extends for a considerable space with little or no alteration in its elevation, we call it a *Plain*, distinguishing, however, between a *Table-land* or *Plateau*, or upland plain, and a lowland *Plain*.

Nearly the half ($\frac{10}{21}$) of the earth is lowland, *i.e.* consists of land not more than 650, or at most 1000 ft., above the sea-level. When a lowland plain is covered for long distances with a uniform and monotonous covering of vegetation it is called in Western Europe a *Heath* or *Moor*, in Hungary a *Puszta*, in Russia and Asia a *Steppe*, in North America a *Savannah* or a *Prairie*, in South America a *Llano* or a *Pampa*. When such a plain is destitute of vegetation it is called a *Desert*.

We must not, however, think of either lowland or upland plains as being absolutely level. Both rise at places into elevations or undulations, on which the rivers generally rise, and which form watersheds (*e.g.* the Valdai Hills in Russia).

Besides these lowlands there are plains which lie below the level of the sea, in reality *Depressions* of the earth's surface, as, *e.g.*, the Netherlands, the valley of the Jordan (1290 ft. below the level of the Mediterranean), the neighbourhood of the Caspian Sea (80 ft. below the Black Sea), and the Mohave Desert in North America (295 ft. below the Pacific).

Small elevations of the earth's surface are called *Hills* (Eminences, Heights); a continuous elevation is called a *Ridge* or *Saddle*. Larger excrescences which attain any considerable height are named *Mountains* (seldom isolated). Several adjoining mountains form a *Mountain Range*.

A mountain comprises a *Summit*, a *Base*, and a *Shoulder* or *Slope*, which may be gentle, steep, or terraced. Sharp and rugged summits are called *Peaks*, *Pinnacles*, *Crests*, *Vertices*, etc.; rounded summits, *Heads*, *Domes*, etc. If the summit be occupied by a plateau instead of a peak, we call the mountain a *Table-mountain*.

The upper part of a mountain-range, forming the *Watershed*, is called a *Ridge* or *Saddle* if it be broad and flat, and a *Crest* if it be narrow and sharp.

An important feature in a mountain-range is supplied by the *Passes*, the indentations in the comb or saddle. If they are deep and narrow they are called *Defiles*, *Ravines*, or *Gorges*. The highest point of a pass is named its summit or crest.

The importance of mountain-passes lies in the fact that they afford the means of communication between countries separated by ranges of mountains. If they are very lofty, or if they are far apart, communication is rendered proportionately more difficult. Trade routes have at all times followed the line of the passes.

Mountain ranges are divided according to their arrangement into *Mountain Chains* and *Mountain Groups*.

Mountains of course vary very much in height. Those between 2000 and 6500 feet may be classed as of average height. Those above 6500 feet are sometimes called *Alps*. Mountains above 21,000 feet are found only in Asia and America.

The length of mountain chains also varies. The Pyrenees are 255 miles long, the Alps 700 miles, and the Cordilleras 8900 miles long.

The wider depressions separating mountains or ranges of mountains are called *Valleys;* very narrow valleys are named *Ravines*.

Valleys may be grouped as *Longitudinal* and *Transverse*, according as they run parallel or at right angles to the main axis of the mountain-range. By a *Main Valley* is understood a valley separating the principal chain of a range from a neighbouring chain; the valleys which debouch in a main valley are *Secondary* or *Lateral Valleys*.

The flat portion of a valley is known as its *Floor* or *Bottom;* and as this has a certain slope (fall) outwards from the mountain, the valleys form the natural outlets or channels for the waters of the latter. The slope is sometimes sheer or abrupt, forming terraces or steps, and thus giving rise to *Waterfalls*.

Almost all valleys are wider at certain points and narrower at others. The narrow part of a valley receives the name of defile, ravine, gorge, or even pass.

The elevation of the surface of a country is no less important in commercial geography than the outline of its coast. Upon the former depend the density of the population, the nature of the productions, the abundance of the means of communication, and the situation of the towns. Very lofty mountains are scantily peopled and poor in productions, while they offer serious hindrances to communication; the same is true of table-lands lying at a great height above the sea-level. Mountains of average elevation are more advantageously circumstanced; but lowlands are the most favourable for the development of industry, trade, and intercommunication.

II.—WATER.

The waters of the earth are either seas (ocean) or inland waters. The latter class is subdivided into standing and running water.

I. The Sea (Ocean).

The sea is a connected whole, covering the greater part of the earth's surface.

This whole is, however, divided by the continents which it embraces, into separate parts, though these parts are all connected with each other, by narrow straits or otherwise, and so form one large ocean. Five such separate parts are recognized, according to a system suggested by the Royal Geographical Society in London in 1845.

1. **The Pacific Ocean**, so-called because Magelhaens, its first navigator, experienced a calm and peaceful voyage on its bosom, forms by itself one-half of the total area of the sea. It lies between America, Asia, and Australia. It is bounded on the N. by Behring's Straits, on the S. by the Antarctic Circle, and on the E. and W. by the meridians which pass respectively through Cape Horn and the S. extremity of Tasmania. This ocean is landlocked on the north, it possesses few lateral seas, it is dotted with volcanoes, and its southern half contains few islands. The great importance of the Pacific still lies in the future, though the way has already been prepared by the intercourse between the United States and China. It is by means of this ocean that European-American civilization will one day unite with the civilization of farther Asia. Unfortunately

only a few great Asiatic rivers empty themselves into the Pacific, and these contribute little to the traffic of the world (Hoang-ho, Yang-tse-kiang, Amoor).

2. **The Atlantic Ocean**, forming one-fifth of the whole sea, lies between Europe, Africa, and America. It is bounded by the two polar circles and by the meridians passing through Cape Horn and Cape Agulhas (S. Africa). This ocean has more gulfs and lateral seas than any of the others. The Mediterranean Sea has no parallel elsewhere.

Only the North Atlantic is distinguished by an abundance of islands.

This ocean unites the most cultured quarters of the Old and New Worlds, and for trade and shipping it is the most important of all. On its shores dwell the chief trading nations of the world, and every ship that is bound to or from Europe must furrow its waters.

The Atlantic Ocean receives moreover the waters of a district 21,200,000 square miles in area. Three-fourths of Europe, the basins of the Nile, the Niger, and the Congo in Africa, and the basins of the St. Lawrence, the Mississippi, the Orinoco, the Amazon, and the River Plate in America, are all accessible from the Atlantic Ocean by a net-work of streams many thousands of miles in length.

3. **The Indian Ocean**, also forming one-fifth of the total sea, lies between Asia, Africa, and Australia, and is bounded by the meridians already indicated and by the Antarctic Circle.

The northern portion of this sea, which stretches in many gulfs into Southern Asia, is the most important. Its chief tributary rivers enter it in the north (Ganges, Indus, Bramahpootra, Irrawaddy), and these alone are really important highways for an extensive inland traffic. The discovery of the Cape route to India transferred the entire trade of antiquity and the middle ages from its previous holders to other nations (Spain, Portugal, France, Holland, and England).

4. **The Antarctic Ocean** includes one-twentieth of the total sea. The Antarctic Circle is regarded as its boundary.

This is the most open of all the seas, in that respect being the direct contrary to the Arctic Ocean. It is also the most inhospitable of all seas; but it has a commercial importance from the active whale-fishery begun in recent times. Little has been done in the way of exploring this sea, which is, in fact, the least known of any. Its icebergs often reach Cape Horn, where they complicate navigation; sometimes indeed they drift as far as the Cape of Good Hope.

5. **The Arctic Ocean**, one thirty-fifth of the total sea, is surrounded by the north coasts of Europe, Asia, and America. It is the most landlocked of all the seas, and is connected with the others only by narrow straits. The Arctic Circle is regarded as its geographical boundary.

The frozen nature of this ocean prevents all regular navigation within it, so that the immense rivers which flow into it (Lena, Yenesei, Obi, Mackenzie, Coppermine, Pechora, Dvina) are of limited importance for international communication.[1]

From early times the Arctic Ocean has yielded to man a rich harvest of fish (herring, whales) and furs. Man has been impelled to penetrate this terrible and dangerous sea, at first by desire for gain, and in our own days by the spirit of exploration.

In recent times efforts have been made by the construction of **Interoceanic Canals** to remove the hindrances to navigation offered in many cases by isthmuses, which compel ships to take wide circuits (Suez Canal, Panama Canal).

1. **Appearance of the Sea.**—The appearance of the sea is varied. When it is calm, *i.e.* when no wind is passing over it, it exposes a surface as smooth as a mirror.

If the surface, however, be disturbed by wind, larger and smaller waves are formed.

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[1] The expedition of Professor Nordenskjöld and the voyages of Captain Wiggins of Sunderland (1874–1888) have shown, however, that these rivers are much more accessible than was at one time supposed. It is now believed that the wealthy auriferous deposits and rich wheat-lands of Siberia are capable of indefinite development by means of steamers plying through the Arctic Ocean, bringing the heavy machinery (stamping-mills, etc.) that is necessary, and affording cheap water-carriage to the rest of the world. A steamer from Hull reached Yeneseisk in two months.—Tr.

The natural *Colour* of the sea is bluish-green, inclining more to blue the more salt it contains. The other colours sometimes observed are due to sea-weed or infusoria (Red Sea), or to the impurities washed down by rivers (Yellow Sea), etc.

2. **Motions of the Sea.**—The above-mentioned mirror-like surface of the sea is to be observed only in separate parts, and on very small parts, of the ocean. The ocean is, as a whole, in a state of constant agitation, including three different kinds of motion, of different degrees of importance.

The most ordinary motion is that of the *Waves*, caused by the pressure of the wind, as already remarked. A wave consists of a *Crest* and a *Trough.* The accounts of waves running mountain-high are more or less fabulous; in the open sea waves of from 30 to 60 feet are seen only in the very severest storms.

If waves, however, are opposed by a steep coast they rise high against it, and are forced still higher by the succeeding waves, until the mass of water is overbalanced by its own weight, and falls backward. Such waves we call *Breakers* or *Surge.*

The second motion of the sea is that of the *Tides* or *Ebb and Flow*, *i.e.* the regular rise and fall of the sea on the coasts (where it can be most easily observed), taking place regularly at intervals of about 6 hours. According to Newton's theory, published in 1687, the cause of this phenomenon is the attraction of the earth by the moon and the sun, which is most perceptible in its influence on the most easily-moved element. The attraction of the nearer moon is about twice as powerful as that of the more distant sun, so that the tides closely follow the course of the former. At new moon and full moon the sun and the moon exert their influence upon the sea in the same straight line, so that they mutually support each other, and the resultant attractive force is equal to the sum of the two separate attractive forces. The natural consequence is that these periods are the periods of the highest tides (spring-tides). At the other two principal lunar phases the sun and moon exert their influence on the earth at right angles to each other, so that a certain amount of the influence of each is neutralized by the other. At these periods the lowest tides take place (neap-tides).

Tides rise highest in bays and at the mouths of rivers, where the waters are forced up from 15 to 60 feet and more; they are most insignificant in inland seas, where they sometimes rise only a few inches.

By the phrase *Harbour-time*, is understood the interval of time between the moon's culmination and the time of high-water.

Many of the most important seaports, including the three greatest harbours in Europe (London, Liverpool, and Hamburg), practically owe their existence to the tide alone.

The third and most important motion of the sea is that of the *Marine Currents.* These are to the sea what rivers are to the land; they are really rivers in the sea, and their beds are formed by water of a different density. Some of them have courses of thousands of miles, they vary in depth and breadth at different points, the rate of their current alters according as they are confined within narrow limits by their watery banks or may spread themselves out, sometimes they change their colour; in a word, they present all the phenomena of land-rivers. The most important discovery in connection with these streams was made in 1775 by Franklin, who found that they could be distinguished by their temperature from the rest of the sea; they are always either warmer or colder than the sea through which they flow.

In quite recent times the course of these ocean currents has been ascertained by simply throwing into them sealed bottles, containing accurate particulars (degree, minutes) of the point at which they were thrown in. These messengers often float for hundreds of miles; bottles that have been thrown into the Mexican Gulf have been washed up on the coast of Ireland and England, etc. etc.

According as these currents flow in the direction of the parellels of latitude or of the meridians, they are called Equatorial or Polar currents. The former depend on the revolution of the earth and flow from east to west, until they are met and forced back eastwards again by the masses of land in their course. The latter are caused by the influx of the cold water from the poles to supply the place of the enormous quantities of water which are removed by evaporation in the torrid zones. Polar currents naturally tend to lower the temperature of the shores by which they flow; equatorial currents, on the other hand, are warm, and raise the temperature of the lands whose coasts they touch (England, and even Spitzbergen).

These main currents are split up and diverted in numerous lateral directions by the configuration of the bed of the ocean, and by winds, etc.

Drift Currents are those which are caused by winds steadily blowing in one direction; they flow much more slowly than the other currents.

These ocean currents are of the greatest importance for navigation, as by their help voyages may be very essentially shortened.[1]

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[1] The principal *Ocean Currents* are the following:—

1. *Gulf-stream.* An equatorial current, issuing from the Gulf of Guinea, flows chiefly on the N. side of the Equator, towards the coast of South America, where it is divided into two parts by Cape St. Roque. The northern portion flows towards the north-west along the coast to the Caribbean Sea and enters the Gulf of Mexico by the Straits of Yucatan. Thence it emerges by the Straits of Florida under the name of the *Gulf-stream,* a deep blue warm current, 32 geographical miles broad, flowing at the rate of 5 geographical miles an hour. This stream, always broadening as it proceeds, flows at first towards the north-east and divides into two parts near Cape Hatteras. One portion turns to the east at about the latitude of the Azores, surrounds those islands, and finally turns south to the original starting-point in the Gulf of Guinea.

In the area of comparatively still water within this circular course all manner of sea-weeds, etc., are swept together and form the immense floating *Sargasso Sea* or *Doldrums,* 1,375,000 square miles in extent.

From Cape Hatteras the main volume of the Gulf-stream flows to the north-east, at some distance from the coast of North America, skirts Ireland, England, and Norway, and passes Nova Zembla, sending out three branches to the west coasts of Spitzbergen, Iceland, and Greenland.

2. The *Brazil Current* is formed by the part of the above-mentioned equatorial current which is deflected towards the south-west by Cape St. Roque. It follows the coast of Brazil, passes the mouth of the River Plate, and ends between Patagonia and the Falkland Islands.

3. *North Polar Current.*—A cold stream issues from the Arctic Ocean between Spitzbergen and Greenland, and skirts the west coast of the latter, under the name of the Greenland Current. At the southern extremity of Greenland it is joined by another icy stream flowing out of Baffin's Bay and Davis Strait, and the combined current then descends the north coast of Labrador, doubles Newfoundland, and flows as a *cold*

3. Depth of the Sea.—The depth of the sea is measured by the perpendicular line from its surface to the bottom. This depth varies at different points, for the configuration of the bottom of the sea resembles that of the earth, though gently sloping plains seem to prevail in the former. Comparatively little is yet known of the depth of the sea. We are best acquainted with those parts which required to be more exactly sounded for the laying of telegraph cables, and especially with the North Atlantic Ocean. This ocean is deepest (27,355 ft.) to the east of the Antilles. The deepest sounding as yet obtained anywhere is 27,925 ft., to the east of Japan. The former exaggerated estimates of the depth at 50,000 ft., as well as the general difficulty in exploring the depths of the sea, are partly to be explained by the use of defective instruments, which have only recently been brought to anything like excellence (especially by the Americans; Brook's Lead). The average depth of the sea is about 11,280 ft.

Extensive shallow places in the sea are called *Shoals*. A distinction is made between *Sand-banks* and banks or shoals formed by rocks rising to the surface of the sea, or even beyond it.

stream along the coast of Nova Scotia and the United States, until it reaches Florida, where it disappears from the surface.

4. *Chinese Current* (Kuro Siwo).—From the west coast of South America a great equatorial current flows westwards between the two tropics until it is met by the coasts of Australia, New Guinea, the islands of the China Sea, and China.

The northern part of this current impinges upon the island of Formosa, where it turns to the north-east, and skirts the coast of Japan as far north as about the latitude of Yokohama. At this point the current, which resembles the Gulf-stream in colour, receives the name of *Kuro Siwo* or Black Stream. The greater part of its volume now flows towards the north-east, passing to the south of the Aleutian Islands, and reaches the coast of California, which it skirts to the southern extremity of the Peninsula of California. Turning westwards at this latitude it flows towards the Sandwich Islands, and joins the north equatorial current. A Sargasso Sea is formed also by this enormous circular course.

5. *Malabar Current.*—An important current beginning in the Indian Ocean, to the S. of the Bay of Bengal and of Farther India, under the name of the *Malabar Current*, turns to the south-west at the meridian of the Seychelles, and flows between Madagascar and the African coast as the *Mozambique Stream.* It then skirts the coast of Cape Colony as the *Cape Stream*, and at the Cape of Good Hope bends to the east.

6. Important cold streams flow from the Antarctic Ocean to the west coasts of South America and Africa, and to Australia and New Zealand. The *Peruvian* or *Humboldt Current* strikes the coast of Chili from the south-west, skirts the Chilian and Peruvian coasts to Cape Parina, where it sweeps to the west and joins the south equatorial current. A portion of this same current, known as the *Cape Horn Current*, doubles the Cape from which it derives its name, and flows across the South Atlantic Ocean to the west coast of South Africa, which it then follows to the equator.

Rows of such rocks in the neighbourhood of the land are called *Reefs* (coral-reefs, barrier reefs, fringing reefs). Much attention has at all times been given by seafarers to shoals on account of their dangerous character. From the earliest times civilized nations have marked such shallows by means of *Lighthouses*.

4. **Temperature of the Sea.**—The temperature of the surface of the sea depends upon the latitude and on the ocean currents. But the solar rays produce an effect to only a slight depth; the annual and daily change of temperature wholly ceases at about 600 ft. below the surface. The great mass of the sea is very cold, and its temperature at any great depth is always in the neighbourhood of freezing-point.

5. **Marine Animals and Vegetation.**—The silent sea embraces a huge animal-world and a considerable vegetable-world of its own.

As plants are not found below the depth of 1200 ft., the greatest part of the boundless sea is destitute of vegetation. Even at 300 ft. the plant-life is scanty. The marine *Vegetable Kingdom*, poor in comparison with the flora of the land, is represented by the family of the Algæ or sea-weeds, which vary in size from delicate threads to sturdy trees, and which sometimes cover the sea-bottom in shallow water, and sometimes float on its surface. The best-known example of a mass of sea-plants is the Sargasso Sea in the North Atlantic Ocean, which has an area of 1,375,000 square miles.

Marine *Zoology* is much richer both in species and individuals than that of the land. It includes all the marine animals from the huge whales and sharks to the millions of molluscs, medusæ, and infusoria. The different species are not promiscuously distributed, any more than the animals on land; each is restricted to its particular region both of latitude and of depth.

The commercial value of many of these inhabitants of the deep is well known. (Coral, whale-fishery, herring-fishery.) The annual value of the fisheries of the world amounts to many millions of pounds.

6. Saltness and Density of the Sea.—We have yet to mention the *Saltness* of the sea. Salt is found in all parts of the sea, in an average proportion of 3·4%. This salt, which is mostly brought to the sea by the rivers, forms a veritable treasure, inasmuch as sea-salt, obtained in warm countries by evaporation, is a valuable article of trade, representing millions of pounds yearly. Salt makes sea-water denser and therefore more buoyant, but it is of little use in preventing impurity. It retards freezing, and, of course, renders the water undrinkable.

II. Waters of the Land.

Standing Water.—Standing water forms either lakes or marshes.

1. *Lakes.*—By a lake is understood a large natural hollow in the surface of the earth filled with water. Lakes differ very much in size, depth, and colour.

Some lakes are the sources of rivers; others receive rivers without parting with them again (Caspian Sea, 150,000 square miles in area); others have rivers flowing through them; and, finally, some neither receive nor send out streams.

Most lakes contain fresh water. Salt lakes have generally no outlet, and are often very rich in salt.

2. *Marshes.*—Marshes are collections of water on soft, porous soil, in which the water is hardly if at all visible. Various names are used to describe them, *e.g.* swamp, morass, moss, bog, fen. Many of these marshes are exceedingly unhealthy, but are capable of being converted into fertile lands by drainage.

Running Water.—Running waters are so called because they descend or run in a sloping course from a higher point (the source) to a lower point. Apart from streams caused by rainfalls, most running streams have their sources in springs, *i.e.* spots at which water collected within the earth breaks forth. Such springs or sources are especially common among mountains. From the source the water flows in a particular hollow or depression known as the bed or channel of the river (banks, bottom, inclination of the channel).

A stream of some size, generally formed by the union of several smaller water-courses (brooks, rivulets), is called a *River.*

In the case of most rivers a distinction may be made between their *Upper*, *Middle*, and *Lower Course.* A stream generally passes its upper course among mountains as a wild mountain-torrent; the much more peaceful middle course has a less abrupt fall, though here, too, rapids and even cataracts occur; and, finally, the lower course lies through lowland plains, with but little fall, so that sailing vessels are able to stem its current. The middle course can be ascended only by steamers, while the upper course is not navigable at all, and is useful to man only for drainage purposes, or as affording motive-power for machinery. These three successive stages are not of course distinctly apparent in all rivers; many have no upper course (*e.g.* the Ems), and some have cataracts but a little way from their mouths (*e.g.* the Congo).

The rapidity of a river depends on:

1. The inclination (fall) of its channel.
2. The mass of its water.

A too rapid current is a hindrance to navigation.

When a river divides itself into several parts, these parts are called arms or branches.

Every running stream falls either into another stream, a lake, or the sea. In the first case there is generally but one mouth, but in the last the river frequently divides itself into several arms, forming what is called a *Delta* (*e.g.* Nile, Rhine, Danube), or else it expands to a remarkable degree and forms a bay or gulf. Such wide river mouths are termed *Estuaries,* and are peculiarly adapted for shipping and commerce (*e.g.* Elbe, Thames, Garonne); while deltas, on the other hand, render navigation very difficult.

All rivers carry along with them in their course a certain amount of alluvial matter, which they deposit either in their own channels, in the delta, or at the mouth, forming what is called a *Bar*. Deposits of that kind are of course hindrances to shipping.

A principal stream with all its tributaries forms what is called a *River System*. A region all the waters of which find their way eventually to the same one stream forms what is called the *Basin* of that stream (*e.g.* basin of the Amazon = 2,000,000 square miles). The *Basin of a Sea* includes all the lands the waters of which flow into that sea. The crest or ridge which separates river-basins or ocean-basins is called a *Watershed*.

THE AIR.

The air surrounds the earth like an envelope to a not yet ascertained height (35–200 miles). Since the air, like all bodies, possesses weight, its upper layers press upon those below, so that the latter become denser the lower they happen to be. The lowest and densest layers, in which the phenomena occur which influence the climate of a particular place, form what is called the *Atmosphere*.

Atmospheric air is an almost uniform compound enveloping the earth, and consisting of 79 volumes (77 parts by weight) of nitrogen to 21 volumes (23 parts by weight) of oxygen. Carbonic acid gas and watery vapour are also present in small quantities. The presence of atmosphere is the essential condition for all terrestrial life.

TEMPERATURE OF THE AIR.

The source of heat for the aerial envelope of the earth is the sun. The amount of heat given off by the sun to any particular point on the earth's surface depends upon the period during which that point is exposed to the sun's rays, and also upon the angle at which these rays fall upon it. For these reasons it is warmer at the equator than at the poles, and in our summer than in winter. In their passage to the earth the sun's rays traverse the successive layers of air without increasing their temperature to any great extent; the air is warmed by conduction of heat from beneath, so that its temperature decreases as we ascend (about 1° F. per 300 feet). Since land absorbs more heat than water, and can thus radiate more, the air above the land is warmer than the air over the sea. The same solar rays that raise the atmosphere of the Sahara to 172° F. can only heat the air above the Red Sea (the hottest sea in the world) to 104° F., and can hardly bring the air of the Atlantic Ocean to 86° F.

At night and in winter the earth parts with its accumulated heat to the air. This process takes place quicker on land, which is a good conductor of heat, than on the sea.

From these simple laws it is obvious why temperature varies at different places and at different times. We find a daily and an annual change of temperature at every place (thermometer).

If we add together the degrees of heat observed at regular intervals during a day, and divide the total by the number of observations, we obtain the mean or average temperature of the day. In a similar way, by means of observations carried on through long periods of time we obtain monthly and annual *Mean Temperatures.*

Temperature is naturally of great importance for all kinds of development on the earth. It depends upon:

1. Latitude; the nearer to the equator a place is the warmer it is.

2. Elevation above the sea-level; the higher a place is the colder it is.

3. Peculiarities of situation.

With reference to the first of these points it must be observed that if temperature depended only upon the sun, then all places at the same latitude would enjoy the same temperature; but that, as is well known, is not the case.

From the second of the above conditions it is clear that at a certain elevation a region must be reached where the temperature is so low that rain is invariably replaced by snow. The limit which marks the beginning of this region is called the *Snow-line.*

The snow-line becomes lower and lower as we approach the north. In the torrid zone it is at an elevation of 15,000–20,000 feet, in the temperate zones 8200–9200 feet, and in the north 2000 feet or less.

The formation of *Glaciers* is intimately connected with the question of the snow-line. Glaciers are formations of ice on the higher parts of mountain ranges, and they are formed in elevated mountain valleys by the conversion through pressure of the lower layers of snow into the compact snow known as *nevé* or *firn;* the water which trickles through this on warm days is frozen at night and so becomes ice. The same process is repeated day after day until the glacier is formed. The glaciers descend into the valleys by their own weight (movement of glaciers), carrying with them boulders and stones (moraines). In summer they melt to a certain extent, *i.e.* the glacier recedes. In warm countries the glaciers lie 10,000–16,000 feet above the sea-level. As we approach the poles we find them lower and lower, until in Greenland and Tierra del Fuego, where heavy snowfalls prevail, they stretch down to the level of the sea, and form icebergs.

According to the third point, the situation of a place has a considerable influence on its temperature. The following considerations are of weight:

1. The neighbourhood of a place to the coast. For since the sea takes longer to absorb heat than the earth, and also parts with it less rapidly, the summers on the coast are cooler and the winters are warmer than inland, where the temperature is "extremer," *i.e.* the extremes of heat and cold are farther apart.

In the neighbourhood of the sea the difference of temperature between summer and winter is much less than in the interior of a continent, where the annual range of the thermometer is often 100° F. or more, and where hot summers are followed by piercing winters, to the great danger and sometimes to the destruction of animal and vegetable life. In Brittany and in the south of England camellias and fig-trees and herds of cattle pass the winter out-of-doors unhurt, whilst Russia and Siberia at the same latitudes have a temperature of 22° F.

2. Ocean currents and winds affect the temperature. The coast of Europe is much warmer than the coast of North America at the same latitude, because the Gulf-stream and the south-west wind, both setting towards Europe, bring warmth with them. Without these agencies England and Scandinavia would be ice-bound regions like Labrador, and even the north of Germany would change its character to something resembling Iceland.

3. The presence and the direction of mountain-ranges exercise a great influence on the temperature of a place. It depends much upon whether a place lies exposed to the north or to the south.

In these circumstances it is quite clear that the tropical and arctic circles are merely theoretical boundary-lines for the five zones. The *Isothermal Lines*, or the lines joining all places with the same mean temperature,[1] do not run parallel with the parallels of latitude; they are very irregular and undulating, and in the interior of continents they tend to approach the equator.

WINDS.

We have already seen that the temperature of the air is different at different places and at different times.

In obedience to physical laws the heated air becomes more rarefied and lighter, and ascends, while its place is taken by colder air, which has a higher specific gravity (rise and fall of the barometer).

In this manner the air is in a state of continual motion; it changes its position. This motion of the air is called *Wind*.

In considering winds, we notice the following points:

1. The direction from which they blow (east wind, west wind, etc.).

2. Their strength; according to which they are breezes, gales, storms, hurricanes. Hurricanes are exceedingly rapid (85–110 miles per hour).

3. Their regularity or irregularity.

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[1] The temperature is calculated as for the sea-level.

Some of the regular winds are daily, others are annual winds. The daily recurrent winds are the **Land-breeze** and the **Sea-breeze.** During the day the land absorbs heat more quickly than the sea, the air above it becomes more quickly warmed, and ascends, so that the cold air from above the sea rushes in to take its place, forming a sea-breeze towards the land. During the night the sea (or large lakes) takes longer to part with its heat. The air above the land becomes cooler first, and rushes towards the sea as a land-breeze.

The most important annual regular winds are the **Trade-winds.**

Source of the Trade-winds.—The air at the equator being the most heated ascends in obedience to physical laws, and begins to move towards the higher latitudes and in the direction of the poles, gradually descending as it advances, partly because it becomes colder as it proceeds, and partly because the earth is narrower near the poles. At about 30° N. (or S.) lat., this current of air reaches the surface of the earth, and since it has left the air at the equator more rarefied, part of it, mingled with the air from the poles, returns to the equator, while part continues its course to the pole.

The former current is called the Equatorial Current or Upper Trade-wind, the latter is the Polar Current or Lower Trade-wind. If the earth were stationary these two currents would move constantly due north and south; but since the earth rotates from west to east, this is not the case. The rotation of the earth reaches its maximum rate at the equator, and is less and less rapid as we approach the poles. Similarly the air at the equator has the maximum rate of rotation from west to east.

When this air reaches higher latitudes it enters regions which are rotating less rapidly than itself, and which therefore lag behind it, while the air, shooting forward, appears as a wind blowing from west to east. In this manner the equatorial or upper current in the northern hemisphere becomes a south-west wind, and in the southern hemisphere a north-west wind.

The polar current, entering a region of quicker rotation from a region of a slower rotation, lags behind the former; it does not rotate so quickly as those parts of the earth near the equator, and is therefore perceived as an east wind. In this way the polar or lower current becomes a north-east or east wind in the northern hemisphere, and a south-east wind in the southern hemisphere. *In other words the trade-winds are deflected to the right in the northern hemisphere, and to the left in the southern hemisphere.*

The South-east and the North-east Trade-winds meet each other near the equator, and would unite to form a gentle wind blowing towards the west, were it not for the fact that they are both suspended by the strong upward draught produced by the rapid and extensive rarefaction caused by the great heat at this point. Thus is produced the *Belt of Equatorial Calms*, about 400 geographical miles broad. We must not, however, think of this region as one where no winds blow; for it is frequently the scene of the severest tempests, with heavy rainfalls and thunder-storms.

In the northern hemisphere next to the belt of calms comes the region of the north-east trade-winds (in the Atlantic Ocean, 8° to 29° N. lat.; in the Pacific, 2° to 25° N. lat.), then the region of the south-west wind, and finally the region of the polar winds.

In the southern hemisphere come the belt of calms, the south-east trade-winds (in the Atlantic, 3° N. to 28° S. lat.; in the Pacific, 2° to 21° S. lat.), the north-west winds, and finally the south polar winds. The western constant winds and the polar winds are not sharply distinguished from each other, and they often interfere with each other's regularity. For this reason the zones respectively 30° to the north and 30° to the south of the equator are sometimes called the zones of *Variable Winds.* The west wind is the prevalent wind, especially in the temperate zones.

It is only in the Atlantic and Pacific Oceans that the calm-belt and the region of the trade-winds are sharply defined from each other, and there is no doubt that in these oceans the regular winds assist very materially to produce the above-described equatorial ocean-currents. The limits within which the upper or lower trade-winds blow vary considerably according to the different temperatures of the different seasons, and also according to the configuration of the land. Thus the zone of calms at the equator alters along with the position of the sun, and at the same time, and as a consequence, the polar boundary of the lower trade-winds alters also.

The trade-wind is subject to its most serious deflection—or rather to a partial suspension—in the south and east of Asia. Though the S.E. trade-wind blows regularly in the southern part of the Indian Ocean, between 10° and 30° S. lat., there is quite a different state of affairs in the northern part. There the N.E. trade-wind blows regularly only from October to April. During the six remaining months, *i.e.* from April to October, the sun stands above Arabia, Persia, and Hindostan, the air in which becomes therefore heated to an unusual degree. The heated air ascends and its place is taken by a current of cooler air from the Indian Ocean. This current, though originally a south wind, is deflected to the right by the slower rate of rotation of the latitudes into which it flows, *i.e.* it is transformed into a *South-west Wind*, so that the N.E. trade-wind ceases to blow.

Both these winds, the *North-east Trade-wind* (from October to April) and the *South-west Wind* (from April to October) are called *Monsoons*, from the Malay word *Musim*, meaning a season of the year.

In China the monsoon appears as a south wind, in Japan as a north-east and east wind, and in North Australia as a north-west wind.

We have still to mention the **Etesian Winds** which blow in the Mediterranean Sea, and are caused by the differences in the heating of the Sahara and South Europe at the different seasons (Bora; Sirocco; Föhn).

Winds, from their influence upon shipping, are of the greatest importance in commerce; and they were much more so before steam was used in navigation. The most important of all are the trade-winds, which render possible, for example, the rapid passages to America. The monsoons assist navigation in the Indian Ocean. The land and sea breezes are of secondary importance, and are chiefly useful for coasting vessels. But even within the zone of the so-called variable winds, long-continued and careful observations have detected a certain regularity in the phenomena of the winds. *Maury*, an American observer, collected millions of these observations extending over the entire earth, and published them in a "sailing book." Since the appearance of this book[1] in 1845, ship-captains have been enabled to accomplish their voyages, with the assistance of the ocean-currents and winds, more rapidly, more safely, and with fewer hands; so that navigators owe to it the saving of much valuable time and money. Previously the science of oceanography had been barren of practical results; Maury at one stroke converted its discoveries into useful rules for navigation.

It is a matter of course that storms are destructive to shipping. The most terrible tempests rage in the tropics (West Indies, Mauritius), which are the region of the dreaded *Cyclones* or whirlwinds. In the Chinese Sea such storms are called *Typhoons.*

Attempts have in recent times been made in Europe and the United States to herald by telegraph the approach of storms (weather prognostication), by which means many disasters have been successfully avoided.

RAIN AND SNOW.

The whole of the water on the globe is continuously moving in a never-ending cycle; all water surfaces are continually evaporating by forming fine vapour-bubbles, which rise into the air.

The quantity of water-vapour which can be held in this form by the air depends upon the temperature of the air; the warmer it is the more vapour it can contain. Every temperature has a distinct maximum of saturation; if this be exceeded the surplus vapour must return to its liquid state, *i.e.* it is condensed.

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[1] *Wind and Current Charts*, with *Explanations and Sailing Directions* to accompany them.

In this manner are produced *Mist, Clouds, Dew, Hoar-frost, Rain, Snow, Hail.*

In comparison with the immeasurable expanse of the ocean the amount of fresh water on the globe dwindles into insignificance, so that we may justly call the sea the mother of all the waters of the land. The enormous quantities of water-vapour which rise from the sea are condensed in the air as clouds, some of which are borne by the winds far into the continents, there, if the circumstances are favourable, to descend as rain, while some, of course, discharge themselves directly into the sea. Part of the water which thus falls upon the land evaporates, part flows immediately away, and part sinks into the soil and collects above some impenetrable stratum, until it bursts forth again to the daylight as a *Spring* (cold and thermal mineral springs). The springs develop, as we have seen, into streamlets and rivers, which enter the sea whence the water first sprang, and so its cycle is completed. The amount of the *Rainfall* is of the utmost importance in determining the character of a country.

The heaviest rainfalls are found in the tropics, near the sea, and among mountains. The farther we penetrate into the interior of a continent, the less, as a general rule, is the rainfall.

The greatest rainfall was measured at Cerra-Punjee, in Hindostan, within the region of the monsoons, viz. 559·4 inches. Cayenne has 130 in., Gibraltar, 47·2; Cumberland, 189; Bergen, 88·7. In the interior of Europe, Vienna has 22·6 in., Ofen, 17·8, and Astrachan, 4·8.

The number and distribution of *Rainy Days* throughout the year vary no less than the amount of the rainfall.

Within the belt of calms at the equator it rains almost the whole year round, on account of the enormous quantities of water-vapour which ascend every day along with the heated air.[1] This region is adjoined, on both sides of the equator, by the regions of the tropical rains, tremendous downpours (8 to 12, even 30 inches per day), which take place daily for several hours, during several weeks when the sun stands vertically over-head. Then, in the direction of the poles, between 28° and 40° of lat., are the sub-tropical zones, with autumn and winter rains;[1] and finally come the zones in which there is rain at all seasons of the year, though chiefly in summer.

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[1] This belt is therefore also known as the *Zone of Constant Precipitation.*—TR.

The amount of rainfall decreases as we approach the poles, but the number of rainy days increases. As a matter of course, it rains much more frequently at sea than on land; thus rain falls at Iceland on 250 days in the year, at London on 150, and at Barnaul on 65.

In some regions of the earth there is no rainfall at all (*e.g.* the Sahara, spots in the Desert of Gobi, the coast of Peru).

In the colder zones snow is, of course, more common than unfrozen rain.

Forests exercise a great influence upon the distribution of rainfall; as they disappear it becomes more and more irregular.

CLIMATE.

By the *Climate* of a place is understood the general character and conditions of the atmospheric envelope at that place. Climate displays itself chiefly:

1. In the daily and annual changes of temperature.
2. In the winds.
3. In the rainfall.

We have already seen upon what these phenomena depend, and here we shall merely briefly recapitulate these points.

1. The climate of a place is warm in proportion to its proximity to the equator. At Fort Conger, in Lady Franklin's Bay, a mean temp. of – 27·4° to – 40° was observed in January, February, and March, 1881–83, with a minimum of – 61·6°; at Werchojansk, near Yakutsk, in Siberia, a reading of – 90° was taken.

2. The climate of a place is cold in proportion to its absolute elevation.

3. The farther a place lies from the sea the greater difference there is between the extreme heat of its summer and the

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[1] The eastern states of the North American Union and China are exceptions.

extreme cold of its winter. A climate that is much affected by proximity to the sea is called an *Oceanic* or *Maritime Climate;* while that which prevails far inland is a *Continental Climate.* The former is distinguished by a copious rainfall, distributed tolerably uniformly throughout the year, and by a comparatively small range of temperature between its extremes. At Brest, fig-trees and pomegranates pass the winter unharmed in the open air; but the vine never ripens. At Orenburg melons ripen in the summer sun; but in winter the cold is so intense as to prevent the growth of fruit trees and even of beeches. Yakutsk has a temperature of 68° F. in summer, and of – 40° in winter. Islands enjoy a mild and equable climate, *e.g.* Great Britain and Madeira.

4. In the northern hemisphere the western continental coasts are warmer than the eastern, on account of the prevailing west winds and of the warm ocean-currents.

There are always, however, various minor and local circumstances, which may produce a considerable effect upon climate, *e.g.*:

1. The presence or absence of mountains or of forests; the neighbourhood or distance of glaciers; the position of the mountains with reference to the exclusion or admission of cold or warm air-currents.

2. The area of water or marshy surface in the neighbourhood.

3. Human toil often produces changes of climate. The destruction of mighty primæval forests makes a climate milder and healthier; sometimes, on the other hand, it makes it too dry and hot. The cultivation of plains (steppes) also tends to make the climate milder. It is obviously very important to learn whether a district is warm or cold, dry or damp, healthy or unhealthy; for upon these questions depend the productions of nature as well as the existence of men.

In reference to the productions and communications of a country, its climate is of more importance than its coast-line or its relative elevation. There is a vast difference among the methods of land-cultivation in hot, temperate, and cold climates; the social life in cities which experience only mild winters is a very different thing from social life in northern cities; and the commercial industry in harbours that are frozen for several months in the year differs widely from that of harbours that are always accessible.

NATURAL PRODUCTS.

Everything that the earth brings forth is a *Natural Product.* These products are divided among the *Animal*, *Vegetable*, and *Mineral Kingdoms.* The products belonging to the last are the oldest, for they form the nucleus of the earth. The covering of vegetation appeared next; then only was the appearance of animals possible.

Animals and plants are found all over the globe, up to the borders of eternal snow and ice, and far into the depths of the sea. But their distribution is regulated by climate; so that several *Zoological* and *Botanical Zones* may be distinguished. As a general rule:

1. Animals increase in size, strength, diversity of colour, and number as we leave the poles and approach the equator (elephants, tigers, parrots, butterflies). The marine animals alone in the north are larger than those near the equator (whales, walruses). The fur-bearing animals reach their greatest beauty in the north.

2. The animals of the Old World are larger than those of the New World. Animals are not so restricted to one district by nature as plants are (gregarious animals), but many animals have been introduced to all parts of the earth by man on account of their useful properties. Such animals are called generally the *Useful Animals;* when tamed we call them *Domestic Animals.*

The most diverse animals may be increased, modified, or developed by the agency of man.[1] The fauna of Europe is in great part the result of man's interference with nature; most of the "useful animals" of that continent have been introduced from Asia. America and Australia first received their domestic animals from Europe, though now these animals form the great riches of those new continents.

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[1] Most naturalists assume that each animal, like each plant, had an original home, whence it extended itself (field of extension). Important conclusions may be drawn from the field of extension of some particular animal, as to the former union of lands now separated. Australia must have been long separated from Asia, whereas England, on the other hand, must long have been joined with Continental Europe.

Plants are much more dependent upon climate than most animals, so that the globe may be divided into numerous Botanical Zones, *i.e.* belts within which certain prominent plants appear. We thus have the Banana Zone, Palm Zone, Evergreen Zone, Vine and Wheat Zone, Coniferous Zone, Moss and Lichen Zone, etc.

On mountain ranges these zones appear successively one above the other, and are called *Regions.*

The plants, like the animals, of the warm districts are the most numerous and gorgeous, and they are also the most juicy (Colonial Products, Spices, Primæval Forests); as we approach the poles vegetation becomes simpler, poorer, and scantier.

In spite of this dependence upon climate, man has endeavoured to introduce many useful plants from their original homes into other quarters of the globe. It may be laid down as a general rule that transplanting from one latitude or elevation to another is successful only when the plants are artificially provided with a climate resembling their native climate (hot-house cultivation); but if the natural climate of a place resembles the native climate of the transplanted plant, the latter often thrives in the open air and proves of extraordinary advantage to man, *e.g.* vines, grains, oil-plants, potatoes, cotton, sugar-cane, etc.

Plants reared by man for the sake of nourishment, clothing, or other advantage to be derived from them, are called *Cultivated Plants.* In commerce these take a specially important place, as they constitute a leading article of trade (*e.g.* cotton, wine, colonial produce, dye-stuffs, grain). The aspect of whole countries has been changed through the artificial extension of these cultivated plants by man. Prairies yield to corn-fields and cotton-plantations, tropical forests to coffee and sugar plantations; the entire flora of Italy and the rest of southern Europe has thus been completely transformed by man.

Unlike animals and plants **Minerals** are restricted to no one region of the earth. They occur in all zones, and we are still very far from being in a position to say finally in what quantities and in what particular regions they may be found.

The most valuable minerals are no longer gold and silver, but coal and iron; these are the props of modern industry and traffic, and their discovery and use give a standard to measure the civilization and the wealth of nations.

MANKIND.

Man, as a being endowed with reason and intellect, exercises at least a partial control over nature. He compels her to bring forth certain products, and he is also the consumer of these products. Men are neither in mind nor body all alike; the different peoples differ very much in their needs, their education, and their constructive mental powers. The civilization of a country in the hands of Englishmen is in a vastly different state from the civilization of a country in the hands of Turks or negroes. Since commercial geography should present a description of both lands and people, it is highly important in this study to be acquainted with the characteristics of different peoples.

The human body is far more capable of adapting itself to its environment than that of any other animal; so that man alone is found all over the earth. But peculiarities of climate and food have a very marked effect in modifying both the minds and bodies of men; so that the men of different quarters of the globe present very different physical appearances, in the matter of complexion, hair, shape of the skull, &c. Upon these differences is founded the division of men into **Races.** *Blumenbach's* well-known division into five races is based upon the different tints of the skin:

1. Caucasian (white); 2. Mongolian (yellow); 3. American

(red); 4. Malayan (brown); 5. Ethiopian (black), including also the dark-brown aborigines of Australia.

O. Peschel distinguishes the following races:

I. Australians.
II. Papuans.
III. Mongolians:
    1. Malays.
    2. Tibetans, Chinese, Natives of Farther India.
    3. Coreans and Japanese.
    4. Finnish-Turkish races.
    5. Natives of Behring's Straits.
    6. American Aborigines.

IV. Dravidian Races in Farther India.
V. Hottentots and Bushmen.
VI. Negroes.
VII. Mediterranean Races:
    1. Hamites.
    2. Semitic peoples.
    3. Indo-European peoples.

According to the careful calculations of Messrs. H. Wagner and A. Supan (1891) the earth contains 1479 million inhabitants.

This population is by no means evenly distributed over the earth. The relation between the size of a country and the number of its inhabitants gives the *Density* of its population; and that has great influence upon its civilization.

MENTAL DIFFERENCES AMONG MANKIND.

Climate, food, occupations, etc., exercise a modifying influence on the form of the human body; the minds of mankind are similarly affected.

Extremes of heat or cold are prejudicial to mental development. The natives of the far north and of the tropics are unintelligent, and think only of the satisfaction of their bodily wants.

Mental differences in general have reference to:

1. Language.
2. Religion.
3. Degree of Civilization.

1. **Language.**—All the individuals who speak the same language form one people (*e.g.* English, French, Hungarian).

There are in all about 1000 languages spoken upon the earth; some authorities reckon 3000, but that estimate includes many mere dialects.

Many of these languages are spoken by only a few thousand individuals, as, *e.g.* among the Indians and Negroes. The speech of civilized peoples tends to extend itself in the course of international intercourse, and to supersede the speech of less civilized peoples. When any language spreads far beyond the original limits of its home, either by conquest or trade, it becomes what the Germans call a "Weltsprache," or international speech (*e.g.* Latin, Arabic, English, French, Russian, Spanish).

English is now the most widely spread *International Commercial Tongue;* for the British have made themselves masters of North America, Australia, and the Southern Seas, and have an important voice in all the leading ports of the world. The English tongue, like the English empire, embraces the globe. Every merchant should understand this language, and with its help he can go through the world. Various other languages are also, however, commercially important, though in a less degree.

In Europe, *French,* in the north of Asia, *Russian,* and in Central and South America, *Spanish* are the most widely spoken languages. English is the *Mother-tongue* of nearly 100 million men ($\frac{1}{15}$ of the population of the globe), German of 65 millions, Spanish of 45 millions, French of 41 millions, while Slavonic tongues are spoken also by nearly 100 millions of men, stretching in an unbroken mass from the Adriatic to the Pacific Ocean.

When men who are unable to make themselves mutually understood come into business relations, they employ *Interpreters.* The office of interpretation is most important in Russia and Asia, where many of the interpreters can speak 10 or 15 different languages. Jews and Armenians make especially good interpreters.

Several related languages form what is called a *Family of Languages*, *e.g.* the Indo-Germanic family, which is subdivided into branches, as the Germanic, Celtic tongues, etc. Under the Germanic tongues again are classed English, German, the Scandinavian languages, etc.

For our purpose the most important languages are those belonging to the Indo-European Family. They embrace the following branches:—

In **Asia**: Languages of the Hindoos, Afghans, Persians, and Armenians.

In **Europe**:

Lithuanian-Slavonic.	*Graeco-Roman.*	*Germanic.*	*Celtic.*
Lithuanian.	Greek.	German.	Irish.
North Slavonic Speeches.	Skipetari.	Dutch.	Gaelic.
South Slavonic Speeches.	Italian.	English.	Welsh.
	French.	Scandinavian languages.	Breton.
	Spanish.		
	Portuguese.		
	Roumanian.		

The Magyars belong to the *Finnish*, Turks to the *Turkish*, and the Jews and Arabs to the *Semitic Family.*

2. **Religion.**—The idea of a deity or god as a supernatural being, intervening in the affairs of man, is common to all nations of the earth.

The manner in which men represent this god to themselves, their conception of their relation to him, and the mode in which they in consequence act, is called *Religion.* Among highly-developed peoples the god appears as a great sublime and intellectual being; degraded peoples worship stocks and stones (idols), etc.

Commercial geography takes account of the different religions, not only because of their bearing upon manners and civilization, but also because religious precepts often exercise a direct effect upon trade. Thus the fasts of the Roman Catholics foster the fishing industry; Islam interdicts the cultivation of the vine, and Buddhism the rearing of cattle; while the state-religion of China stands in the way of all progress. The caste-system of the Hindoos facilitates the government of India.

Religions fall into two principal groups: (1) *Monotheistic.* (2) *Polytheistic.*

(1) MONOTHEISTS are those who believe in but one single God, viz. the Christians, Jews, and Mahometans.

Christianity embraces three main creeds or confessions:

(*a*) The Roman Catholic, under the supremacy of the Pope at Rome, with 190 million adherents.

(*b*) The Protestants, with 130 million adherents.

(*c*) The Eastern Christian Churches, of which the Greek Church and the non-united Armenian Church are the chief branches, with 95 million adherents.

The majority of Christians dwell in Europe and America, though Christianity has been carried by Europeans into every quarter of the globe. Its adherents number in all about 415 millions.

Islam or *Mahometanism*, founded by Mahomet about 600 A.D., reigns in Turkey in Europe, Asia, and Africa, and has about 200 million adherents. It is still making many converts in Africa. It is divided into the two great sects of Sunnites and Shiites.

The *Jews*, formerly an independent people in Palestine, are now scattered throughout the whole earth. They number 7–8 millions.

(2) POLYTHEISTS are those who believe in more gods than one (heathen). The great bulk of mankind are still *Heathens.* The most extensive heathen religions are the Brahmanism and Buddhism of Asia, which have together 750 million adherents. The lowest stage of religious life is occupied by the Negroes worshipping *Fetishes* (110 millions).

3. **Degrees of Civilization.**—The mental and physical wants of men, and the modes of satisfying them, are very

diverse, and from this diversity arise the different degrees of civilization.

Peoples are commonly divided into *Fruit-gathering*, *Fishing*, *Hunting*, *Pastoral* (*Nomadic*), and *Settled* peoples.

The lowest stage is occupied by the *Fruit-gathering*, *Fishing*, and *Hunting* peoples, who live from hand to mouth, and purchase with the fruits of the chase (*e.g.* skins, whalebone), the few necessaries (gunpowder, knives, needles) which they are not able to provide by themselves. In the next stage are the *Pastoral* peoples or *Nomads*, who possess in their domesticated animals, an abiding possession, an article of property, and who are also more skilful in bargaining. They have higher needs, so that a more active trade takes place between them and civilized peoples than is possible in the case of the first-named peoples. In the course of their wanderings they are led to observe the phenomena of nature, so that we find them possessed of a method of measuring time and a higher conception of God.

A people becomes *Settled* when it derives its chief food-supply from the earth, in other words, when it becomes an *Agricultural People*. Cattle-rearing is always associated with agriculture, for with his own strength man can but poorly till the soil.

Besides the strength of animals he requires also various implements, especially implements of metal (beginning of mining and handicrafts). The agriculturalists do not live in tents, they require stronger permanent dwellings; and necessity compels men to draw near to one another. Thus *Hamlets* and *Villages* arise, and gradually swell into *Towns* and *Cities*.

Originally men sought only for the necessities of shelter, food, and raiment; by and by the useful was added and then the comfortable. Thus industries grew up, and with them *Trade* (originally mere barter) and commerce. Finally a people comes to have *Intellectual Wants*, which give birth to *Art* and *Science*. When this stage of culture is reached, the formation of a *State* becomes possible.

Thus we see that agriculture may justly be regarded as the primary condition for all culture and civilization.

Five-sixths of the human races are now settled. When an agricultural people occupies the territory of a hunting or nomadic race, it either compels the latter also to become settled, or annihilates it altogether (*e.g.* Nomads of Central Asia, North American Indians).

Practically the only migratory people now existing are members of highly developed European nations, who frequently become the rulers of the foreign lands which they occupy (*e.g.* America, India). The aborigines are usually overcome or exterminated by them.

Colonies are communities planted upon foreign soil by some established state, and still retaining a political bond with the mother-country. Colonies may be agricultural (plantations), pastoral, commercial, mining, or, finally, penal.

COMMUNICATIONS.

Under this head is included everything that man has devised to facilitate the transference of himself, his goods, or his thoughts from place to place. The whole question of the development of human civilization is involved in the question of the development of the means of communication.

The most important *Motive Powers* at the present time are mechanical, *viz.* Wind (sailing-vessels), Water, more recently Steam (steamboats and locomotive engines), and Electricity (telegraph, telephone). *Animals* as motive powers occupy a subordinate position.

ROUTES.

The first essential for any communication between different places on the earth is a road or route.

Routes are either land-routes or water-routes.

Land-routes include every sort of road from the track of the caravans across the Sahara to the most elaborate streets and railways. They are most numerous in thickly populated and industrial countries. Peoples occupying a low stage of civilization have few and poor roads. The wealth and culture of a nation may be estimated from the abundance, nature, and excellence of its roads.

Water-routes include rivers, canals, and the ocean highways. While land-routes are the artificial products of human labour, and require to be maintained in good repair, the great majority of water-routes are by nature directly useful (rivers, seas), and are not worn out by use; thus water-transport is always cheaper than land-transport.

Routes which are used for commercial purposes are called *Trade Routes.* Cheapness of transport is the great reason why trade prefers one route to another; merchants select the route which can be most economically traversed, even though in some cases it offers greater difficulties than a dearer route.

POSTS, TELEGRAPHS, RAILWAYS, ETC.

Some sort of public organization is the essential condition for the maintainance of universal communication, such as mere individuals could not maintain by themselves. There are three leading institutions of the kind:—1. Post-offices. 2. Railways and Steamships. 3. Telegraphs.

1. *Post-offices.*—The first post in Europe, in the modern sense of the word, was begun in 1516 between Vienna and Brussels; and for centuries high postal tariffs were maintained, for statesmen were accustomed to look upon the post as first of all a source of revenue. It was not till the present century that the value of a cheap post in view of the enormously increasing communication was seen; and efforts were made to secure a convenient, cheap, and expeditious postal service. The means adopted were, firstly, the use of *Postage Stamps* (Hill's Act, 1839), and, secondly, the lowering of the *Rate of Postage.* In the latter case the increased number of letters is relied upon to cover the initial financial loss (Penny Post in England[1]). Post-cards, Post-office Orders for money, and the Parcels Post

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[1] A universal penny post for the entire globe has been suggested.

are later developments of the Post-office. So also is the International Postal Union.

2. *Railways and Steamships.*—In 1829 the first really important railway was opened. Men thought it would also be the last, for the enterprise was deemed hopeless. The reverse soon made itself apparent, however; and during the last sixty years railways have multiplied and extended with marvellous rapidity.

The fact that railways can bring goods in any quantity to the spot where they are most valuable (*i.e.* the dearest market) has made them a leading factor in all commercial development; they are now, in fact, absolute necessities. It is the duty of communities and states to provide them. In many districts the need of a railway is so pressing that it must be built even when it is clear that it will not bring an adequate return for many years.

Steamships are practically the railway trains of the sea and the rivers. Their number and their capacity have also increased at a wonderful rate.

3. *Telegraphs.*—The electric telegraph, annihilating time and space, unites the thoughts of men. The enormous commercial importance of knowing at once the state of the markets, renders the telegraph absolutely indispensable. The earth is now almost completely girt with telegraph wires, and the net is becoming more and more close. International telegraph-lines possess peculiar importance. Submarine telegraph-lines are called *Cables.*[1]

EXCHANGE.

Exchange is the process by which an article or its value passes from the lawful possession of one man into that of another. Two conditions are here essential:

1. The measure of the article. That must remain fixed. The measure and weight must be unchangeable and beyond all arbitrary control. (International Common Measures.)

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[1] The *Telephone*, by means of which those who are even 1000 miles apart may converse with each other *viva voce*, must also be reckoned among the means of communication that are now indispensable in all important commercial countries. The telephone between Brussels and Paris was the first international line.—TR.

2. The exchange-value, *i.e.* the actual value of the article for the purposes of exchange, expressed in terms of coins (*e.g.* five pounds) represents the value of a particular article to me. This value I can in its turn make the object of trade; I can exchange or give away the five pounds. This independent and self-existing measure of value is called *Money*. As soon as men rise above the crudest form of barter they begin to require some measure of value; and for that purpose some article is always selected which is universally recognized to have a certain intrinsic value. Thus in Asia, camels, horses, and rice; in Africa, slaves, tortoise-shell, quills filled with gold dust, and cowrie-shells; and among northern nations, cattle, skins, etc., are used as money. But as trade advances these objects are no longer satisfactory, for a measure of value to be used as money must be capable of very minute subdivision, so as to be easily exchanged for articles of the most various values. It must be readily acceptable to everyone; it must be easily preserved and easily transported; it must not be bulky; and, finally, it must not itself be subject to great variations in value. All these properties are possessed by *gold* and *silver*, and to a less extent by *copper*, and therefore these metals have been accepted by all civilized nations as money, at first in large and irregular masses (bars, pyramids), and afterwards, at a later stage of their development, in the form of *Coins*. But in order that coins may really possess the value which they represent, they must be struck by the state, *i.e.* government alone has the right of coining money. (Recoining; Standard of Coinage.)

Standard Value is that property of the symbol of value in virtue of which it is legal tender for all demands, including government taxes; coins which do not possess this character are merely goods or wares.

The distinction between the gold standard and the silver standard must be noted. The former is gradually being universally adopted to the exclusion of the latter. The relative value of gold to silver is as 19½ : 1.

Paper Money.—Paper money, in the modern sense, consists of documents acknowledging liability or indebtedness (*e.g.*

cheques, bank-notes), used for convenience in place of coins. The bank must guarantee that the bank-notes really represent the value they claim; *i.e.* they must represent coins, or in other words, the means of paying. The state endeavours to strengthen this guarantee by its control of banks (Bank-charters, Law of Banks). In countries in which there is a national bank in the hands of the government, the state-guarantee is, of course, direct for the national bank-notes.

MARKETS AND FAIRS.

The larger a country is, and the more defective its internal communications are, the more important are its *Markets*. In Asia, *e.g.*, the merchant cannot provide himself with his different wares so quickly or so surely as in Western Europe; and therefore it is a great advantage for him to be sure of finding a large selection of goods at a particular place and at a particular time. The institution of markets is very ancient. At first they are small, and take place frequently (weekly markets), then some become larger and larger and develop into *Yearly Markets* or *Fairs*, where merchants from the most distant quarters can supply their wants. Places occupying favourable geographical situations are usually chosen for great markets, as, *e.g.*, towns at the influx of rivers into the sea or into other rivers, or at fords over great rivers. Sometimes the seats of kings or holy spots are selected as the sites, and religious festivals as the times, for markets. This is the case as well among Jews (Easter Fair at Jerusalem) and Christians (Easter Fair at Leipsic, etc.), as among Mahometans (Mecca) and heathens (Hardvar, in Hindostan). To ensure the prosperous continuance of markets they must be protected by laws; and such *Market Laws* are found among all nations. The fairs of Western Europe have lost nearly all their old importance, from the reasons already indicated; railways, telegraphs, and commercial travellers have rendered them at least no longer indispensable. *Exhibitions* seem to have taken their place as gigantic collections of samples.

EXCHANGES.

1. By an Exchange is understood the *Place* at which the merchants of a large town congregate at particular times to transact business.

2. But the word is also often used for the assembly of merchants themselves.

3. And finally and chiefly, it is also applied to the business transacted at these assemblies.

Exchanges are either *Stock Exchanges* or *Produce Exchanges* (Corn-exchange, Iron-exchange) according to the character of the business transacted in them. The existence of an exchange always implies a considerable volume of trade in the article concerned.

INSURANCE.

The works of man are continually being destroyed by the elements; either gradually by rain, wind, air, or sunshine, or suddenly by fire, water, tempest, hail, etc. The former are met by repairs; against the latter individuals are helpless. The hostile element may destroy a man's whole capital at one blow. Against such disasters combination is alone of avail, each of a number helping the other. This is facilitated by *Insurance* and *Assurance*, by which the disaster is not indeed averted, but its damage is made good. (Fire Insurance, Life Assurance, Cattle Insurance, Marine Insurance, etc.)

(Mutual Assurance, Government Assurance, etc.)

THE STATE.

The foundations of all states lie in the family and in fixity of abode. Migratory peoples never form a state. When several families unite they form a clan or tribe; several clans form a people.

When a number of men unite themselves into a community for mutual protection of their material and spiritual interests under fixed laws, that community is called a *State*. A state may be of any size, and its members may be drawn from several different peoples. A state is a recognition of actual facts; it is not based upon contract or treaty between the rulers and the ruled.

In every organized state laws must first of all be decreed, amended, or superseded by new laws. And a contribution (taxes) must be made by all members to meet and fulfil the common wants.

The authority which attends to these matters is called the *Legislative Authority.* It is supported by the active authority, the *Executive*, or the government in the broadest sense.

By the executive authority of a state is understood the whole sum of the regulations by which the individual expressions of the will of the state (laws in the widest sense) are actually carried out. In modern states the *Judicial Authority* is independent of both the preceding.

The system upon which the legislative, executive, and judicial authorities of a state are arranged is called the *Constitution* of the state.

When the supreme power is exercised by one chief, the state is called a *Monarchy.* A monarchy is called *Despotic* when the subjects have no rights or power as against the monarch. It is *Autocratic* when the legislative power lies wholly in the hands of a monarch, who, however, is himself subject to the law, *e.g.* Russia and Turkey. In a *Constitutional Monarchy* the monarch shares with hereditary or elected representatives of the people the right of enacting laws and the administration of the constitution.

When the supreme power is exercised by several members, the state is called a *Republic.* A republic is called an *Aristocracy* or an *Aristocratic Republic* when the power is wielded solely by the higher classes or families, *e.g.* the mediæval Italian republics. It is *Democratic* when the entire people shares in both the functions of government by means of representatives, *e.g.* the United States of North America and Switzerland.

Various titles are given to monarchs, and according to these the land is also named. An emperor rules over an empire, a king over a kingdom, a duke over a duchy, etc. The monarchical dignity may be either hereditary or elective.

In republics all higher offices of state are filled by men elected for longer or shorter periods; and every office-holder is responsible for his political acts and omissions.

Boundaries.—The line which separates two states from each other is called the political boundary. If it be defined by mountain ranges or rivers, it is described as a natural boundary. Political boundaries are removable, and in the course of centuries thousands of such conventional boundaries have been obliterated and their places taken by others. Natural boundaries, on the other hand, are fixed.

For the sake of convenience in government states are subdivided into smaller districts, which bear different names in different nations, *e.g.* province, government, département, county, shire, hundred, kreis, bezirk, gemeinde. These divisions are also of political significance.

Other divisions also exist for totally different purposes, *e.g.* industrial divisions, parishes, poor-law unions, assize-divisions, etc.

There are also boundaries between races and languages as well as between states.

PART III.

POLITICAL AND COMMERCIAL GEOGRAPHY.

EUROPE.

THE BRITISH EMPIRE.

In speaking of the British Empire we include both its European and its extra-European possessions.

1. The **European Possessions** are:

Great Britain[1] (England and Scotland) and *Ireland*, with an area of 120,832 square miles and a population (at the census of 1891) of 37,800,000.

Gibraltar, 1⅔ square miles in area, with 25,869 inhabitants.

Malta and *Gozo*, with an area of 143 square miles and a population of 165,662.

2. The **Extra-European Possessions** are scattered over the entire globe, and have a total area of over 9,000,000 square miles, with 345,000,000 inhabitants, or more than one-fifth of the whole population of the earth.

This colonial empire is a great factor in England's greatness. It fosters the gigantic industries of the mother-country, and is a great support of the English external trade, which embraces in its scope all the continents of the world, while it has its focus in Great Britain.

[1] England and Wales ..	58,186	square miles,	with	29,001,018	inhabitants.
Scotland,..	29,820	,,	,,	4,025,647	,,
Ireland, ...	32,531	,,	,,	4,704,750	,,
Isle of Man, ...	220	,,	,,	55,598	,,
Channel Islands, ...	75	,,	,,	92,272	,,
Army, navy, and merchant seamen abroad,	—	,,	,,	?	,,
	120,832	,,	,,	37,879,285	,,

The name England is frequently used in foreign countries, and especially in commercial matters, as equivalent to Great Britain and Ireland.

GREAT BRITAIN AND IRELAND.

Situation and Boundaries.—This nucleus of the British Empire lies between 10° 26′ W. and 1° 4′ E. long., and between 50° and 58° 40′ N. lat. Scotland includes the Orkney and Shetland Islands and the Hebrides; England embraces the Isle of Man, the Isle of Wight, the Channel Islands (Jersey, Guernsey, Alderney, Sark), and the Scilly Islands.

The entire kingdom is surrounded by the Atlantic Ocean, or some of its divisions (North Sea or German Ocean, English Channel, St. George's Channel, Irish Sea, and the North Channel).

The coast-line is very irregular and advantageous. The sea runs in numerous bays so far into the land that no point in great Britain is more than 75 miles from the coast, and in Ireland none is more than 56 miles. Including river-ports England possesses about 100 harbours. Lofty shores are the universal rule except on the east. The rise and fall of the tides, from 6 to 30 ft. (the latter height at Bristol), converts the mouths of the streams into deep bays.

Population.—The *Population* of the British Islands is of very mixed descent. The original inhabitants belonged to the Celtic stock, which occupied the entire north-west of Europe; but these were recruited by the Romans, the Anglo-Saxons, the Danes (Germans), and the half-French Normans or Norsemen.

This medley of peoples has by no means yet merged into one homogeneous whole. About 5% of the inhabitants (nearly two millions) speak Celtic dialects (Irish, Gaelic, and Welsh), though most of these can also speak English.

A majority of *Englishmen* (perhaps 19,000,000) belong to the English National Episcopal Church; the *Scots*, who have a separate national church, are chiefly Presbyterians (3,200,000); and the great majority (or about 3,550,000) of the *Irish* are Roman Catholics. Roman Catholics in Great Britain are estimated to number 2,000,000. There are besides other important religious bodies both in England and Scotland (Wesleyans, the most numerous, Independents, Baptists).

The British Islands are very densely populated (313 per square mile). The most thickly populated counties, apart from Middlesex, are Surrey, which in 1891 had 2283 per square mile; Lancashire, which had 2080, and Cheshire 1004.

Ireland (145 per sq. m.) and the Scottish Highlands are the most thinly populated regions (154 per square mile).

In no other of the great states of Europe does so large a proportion of the population live in towns as in Great Britain, where 70% of the total are urban. In Ireland the proportion is 23%. Twenty-five towns have upwards of 100,000 inhabitants; London has 5 millions.

This extraordinary density explains the large stream of *Emigration* which for many years past has annually left England for new homes beyond the sea, and which has reduced the population of Ireland much below its former figure. Between 1853 and 1886 nearly 8 million emigrants left the United Kingdom; between 1815 and 1891 about 12,500,000.

Most of these emigrants settle in the United States and the British colonies; and it is the latter, who never forget their English origin, that form the firm bond knitting the colonies to the mother-country.

Constitution and Education.—Great Britain is a constitutional monarchy, hereditary in the male and female line. There is no written or formal constitution, but its place is supplied by a series of ancient and modern statutes. The most important constitutional enactments are *Magna Charta* (June 9th, 1215), the *Habeas Corpus Act* (1679), and the *Bill of Rights* (1689).

The Act of Union between England and Scotland (1707), and the Union between Great Britain and Ireland (1800), have united all three countries under the rule of one Parliament and central authority.

The power is divided between the *Crown* and the *Parliament.* Parliament represents the right of the whole people, and has existed since 1258. It consists of two houses, the House of Lords (550 peers), and House of Commons (670 members).

Personal freedom is nowhere so extensive or so well protected as in England, for the law commands the greatest respect.

The system of government is very simple, but somewhat defective. Great scope is given to self-government, and the local authorities exercise a wide jurisdiction.

The *Military Organization* is entirely different from that which prevails on the Continent. The whole regular army consists of professional soldiers who enlist for a fixed number of years, and forms a well-equipped body of men, who have given proof of their valour in all parts of the globe. More than half the regular troops are stationed abroad. Commissions must now be obtained by examination; before 1871 they might be bought and sold. In time of peace a standing army may not be maintained without the consent of Parliament.

In addition to the regular army there are the *Militia*, which may be increased by a Parliamentary resolution or by compulsory enlistment, the *Army Reserves*, and the *Auxiliary Forces* or *Yeomanry* and *Volunteers*.[1]

The chief defence of the country and the pride of the nation is the *Navy*, which in 1892 comprised 43 splendid ironclads, 15 ironclads for coast defence, 30 first-class ironclad or protected cruisers, besides other craft.

Education.—In regard to education Great Britain is somewhat behind several other states. Out of each 100 children between 5 and 15 years of age, only 61 attend school in England, 70 in Scotland, and 58 in Ireland, so that the total of those unable to read is considerable. One secret of this fact is the lax manner in which the compulsory education acts are applied.

Secondary education is largely directed to practical ends, so that professional instruction abounds; but a thoroughly equipped system of secondary education is as yet a desideratum. For long a university education was only attainable by the comparatively wealthy, but the institution of numerous university colleges has altered this state of matters. In recent years increasing atten-
and the been given to the study of foreign languages.
Roman Catholics.
mated to number 2,00

army consisted of 210,000 regulars, 60,000 reserves, 112,000 nd 222,000 volunteers, in addition to the native troops in ia and volunteers.—TR.

One very important feature in English life is the inter-relation of the various classes of society into which the people are divided, notwithstanding all their individual freedom. Noble birth is of great social importance, but commands almost no special privileges in law for the aristocracy, except that most of the actual holders of titles of nobility have the right of sitting as legislators in the House of Lords. These are the titles of duke, marquis, earl, viscount, baron. Baronets do not belong to the nobility. Nobility is inherited or conferred by the sovereign, and titles pass to the eldest lawful male heir (sometimes to females), who in most cases inherits all the landed property of his predecessor, and maintains the dignity of the family. The younger children receive portions from the savings of the father, or from non-entailed parts of the estate. This recognition of primogeniture explains in great measure the enormous wealth of some members of the aristocracy. Several dukes reckon their incomes by hundreds of thousands of pounds.

Next to the nobility come the gentry or landowners generally, many of whom, though not possessed of titles, belong to families as ancient as those of the nobility. There are also many great capitalists, as in other countries, who have made their wealth by trade, commerce, or financial operations. The nobility is constantly having members of these two classes added to it.

Almost all the land is the property of the nobility, gentry, and plutocracy. The occupiers and cultivators of the soil, as a rule, have no property in it; for the most part it is hired for rent, and cultivated by farmers and labourers. The class of peasant proprietors, such as is met with in France or Germany, is practically non-existent. Only one-fourth of the whole area is owned by proprietors averaging 70 acres each.[1]

Even in towns the ground can generally be obtained from the landlords only on lease. In London entire quarters are built on leases expiring after 90 years or other periods. Single proprietors thus come to own hundreds if not thousands of houses.

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[1] Of the 72,000,000 acres for which returns have been obtained (within about 5,000,000 acres of the total area of the United Kingdom) 50,000,000 are said to be owned by 15,000 persons, 30,000,000 of these being the property of 1000 persons.

The wealth of Great Britain is undoubtedly greater than that of most other countries, but as the dark reverse to this bright picture of British opulence stands the constant poverty of the lower classes, especially the farm labourers in many parts of the country and the unskilled labourers in the towns. In Ireland, among the poorer classes, a pitch of misery has been reached hardly paralleled anywhere on the Continent. Irish farmers, however, are now favourably situated as regards rent and tenure of holdings, many of which they are buying themselves.

The prevalent national characteristics of the British people are solidity, energy, endurance, enterprise, strict respect for the law, and, finally, great industry in their selected professions.

As true islanders the British cling to their own manners and customs with an often amusing tenacity. As a nation shut out from all direct foreign influence, they have mainly directed their attention to their own narrow home and to its improvement. The objects of their foreign policy have always been the maintenance and extension of British power and of British trade.

MOUNTAINS.

The south and east of Great Britain are occupied by an extensive undulating and fertile plain; and in the north and west rise the mountains, which monopolize $\frac{2}{5}$ of the total surface.

A. The mountains of **England** may be divided into five principal groups:

1. The Devonian Range.
2. The Welsh Mountains (Snowdon).
3. The Pennine Range.
4. The Highlands of Cumberland.
5. The Border Hills or Cheviot Range.

The mountains of southern Britain reach their greatest heights in Wales and the Cumberland Highlands.

B. **Scotland** is mostly mountainous, its heights falling into three divisions:

1. The Southern Highlands between the Cheviots and the Forth and Clyde Canal.

2. The mountains to the north of this line, or the Grampian Range, as far N. as Ben Nevis.

3. Mountains of North Scotland. These are mostly destitute of cultivation, with unfertile and marshy valleys.

C. **Ireland** is mostly occupied by undulating plains, which never rise in the interior higher than 300 ft. above sea-level. The chief ranges of mountains are situated at different points surrounding the great central plain. The plain is not uniformly fertile. About $\frac{1}{7}$ of all Ireland is occupied by bogs and moors.

RIVERS, CANALS, LAKES.

The *Rivers* of England present mostly the same character. They never rise at any great height; they have generally very slow courses; a uniform depth of water; broad and deep estuaries, into which the tide runs very far, making them accessible for large sea-going ships; and, finally, they are never frozen in winter. It need hardly be pointed out that all these peculiarities are very favourable to commerce.

England possesses in all 50 navigable rivers, several of which indeed are accessible for sea-going ships. The chief are: the *Thames*, the most-frequented river in the world, although only 220 miles long; the tide rises 12 to 20 feet; the *Mersey*, the *Humber* (Trent and Ouse), and the *Severn*. Smaller rivers are the *Tees*, the *Tyne*, and the *Tweed.*

Scottish rivers are mostly beautiful and clear, but impetuous mountain streams, abounding in cataracts, and therefore of little importance from a commercial point of view. The estuaries of some of them, however, carry on a large shipping trade (Clyde, Forth, Tay).

Ireland owns many navigable streams, among which the *Shannon*, the largest in the kingdom, and navigable for almost its entire length (230 miles), is the most important.

The *Canal System* of Great Britain is exceedingly noteworthy, and it has been much assisted by the configuration of the surface, the low level of the watersheds, and the manner in which the streams are divided. In England alone there are upwards of 2500 miles of canals. The English canal-system has three chief termini—London, Birmingham, and Manchester—and these are connected with the important seaports of Liverpool, Bristol, and Hull. Manchester will soon become virtually a seaport by means of its great ship canal.

The largest canal in Scotland is the Caledonian Canal, passing through Loch Ness and other lakes; but the most important is the Forth and Clyde Canal, by which the rivers Clyde and Forth are united (30 miles).

The Royal Canal (76 miles) in Ireland intersects the island from Dublin to the Shannon near Longford, thus joining the east and west coasts.

Great Britain has in all about 100 canals, all of which, with the exception of the Caledonian and Crinan, are private undertakings. A great hindrance to their usefulness is the fact that different companies in constructing their canals have adopted different scales of dimensions.

Both islands possess *Lakes.* The principal English lakes are in Cumberland (Windermere, Grasmere, Derwentwater); in Scotland, where they are larger, they are called *Lochs* (Lochs Lomond, Tay, Ness); in Ireland they are frequently called *Loughs* (Lough Neagh, the largest in the United Kingdom, nearly as large as the Lake of Constance, Lakes of Killarney).

CLIMATE.

The climate of Britain has this special character that it is the most oceanic of all European countries. The variation of the thermometer is very slight during the year. In no other part of the earth do the Isothermal Lines of 46° F. and 50° F. reach so great an elevation as in England, a fact which is connected with the influence of the Gulf-stream.

While places of equal elevation on the Continent experience winters descending to 13° F., almost no snow falls on the plains of Ireland and England. London has a mean temperature in January of 39·3° F., and in July of 62·7°. Dublin has 41·2° and 57·2°, Edinburgh 37·7° and 57·2°. Falmouth has a mean temperature of 44·6° in January, and 59·4° in July. From these figures it is easy to understand that numerous evergreens can withstand the winter in Great Britain, though the sun is never powerful enough to ripen the vine. The abundant *Rainfall* is also characteristic of the British climate. The mountainous portions of Cumberland have an annual rainfall of from 152 to 189 inches. English fogs have a notorious reputation. The rainfall is distributed tolerably evenly throughout the entire year. Most rain falls in the west: Ireland has annually 250 rainy days, England 175–200. This abundant damp has naturally a very marked influence upon the cultivation of the soil; though somewhat inimical to agriculture, it is favourable for pasturage and cattle-rearing.

Terrible *Storms* rage in autumn and winter round the coasts of Britain; the south and east coasts are especially exposed to their fury. About 360 lighthouses and 50 light-ships mark the most dangerous points; besides which there is an excellent service of life-boats round the coast.

DIVISIONS AND CHIEF TOWNS.

1. England (40 Counties or Shires).

Bedfordshire.—Bedford, Luton.

Berkshire.—Reading, Windsor.

Buckinghamshire.—Aylesbury, Buckingham, Olney, Eton.

Cambridgeshire.—Cambridge, Ely.

Cheshire.—Chester, Birkenhead, Stockport, Macclesfield.

Cornwall.—Launceston, St. Ives, Penzance, Falmouth, Truro.

Cumberland.—Carlisle, Whitehaven, Keswick.

Derbyshire.—Derby, Matlock, Buxton.

Devonshire.—Exeter, Plymouth, Devonport, Torquay, Barnstaple.

Dorset.—Dorchester, Weymouth.

Durhamshire.—Durham, Sunderland, S. Shields, Gateshead, Stockton, Darlington, Hartlepool.

Essex.—Chelmsford, Colchester, Harwich, Ipswich.

Gloucestershire.—Gloucester, Bristol (222,000 inhabitants), Stroud, Cheltenham.

Hampshire.—Winchester, Southampton, Portsmouth (160,000 inhabitants), the largest naval port of England, in whose harbour the entire English fleet could find shelter.

Hereford.—Hereford, Leominster.

Hertfordshire.—Hertford, St. Albans.

Huntingdonshire.—Huntingdon, St. Ives.

Kent.—Maidstone, Chatham, Rochester, Gravesend, Woolwich, Greenwich, Canterbury, Dover.

Lancashire.—Liverpool (584,000 inhabitants), at the mouth of the Mersey, opposite Birkenhead; Manchester (505,000 inhabitants), with Salford (198,000 inhabitants); Lancaster, Preston, Blackburn, Burnley, Wigan, Warrington, Ashton-under-Lyne, Bury, Oldham, Bolton, Rochdale.

Leicestershire.— Leicester.

Lincolnshire.—Lincoln, Boston, Grantham, Great Grimsby.

Middlesex. — London.[1] The Metropolitan Parliamentary District has 4,436,000 inhabitants; the Police District, over 5½ millions.

Monmouthshire.—Monmouth, Newport.

Norfolk.—Norwich, Lynn Regis.

Northamptonshire.—Northampton, Peterborough.

Northumberland. — Newcastle (186,000 inhabitants), Tynemouth, N. Shields, Morpeth, Berwick.

Nottinghamshire.—Nottingham 212,000 inhabitants).

Oxfordshire.—Oxford, Woodstock.

Rutland.—Oakham.

Shropshire.—Shrewsbury, Much-Wenlock.

Somerset.—Taunton, Bath.

Stafford.—Stafford, Burton, Stoke, Newcastle-under-Lyne, Hanley, Burslem, Walsall, Lichfield, Wolverhampton.

Suffolk.—Ipswich, Bury St. Edmunds, Lowestoft.

Surrey.—Guildford, Croydon, Reigate.

Sussex.—Lewes, Chichester, Hastings, Brighton (110,000 inhabitants).

Warwickshire.—Warwick, Leamington, Coventry, Birmingham (429,000 inhabitants).

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[1] The streets of London have a total length of 2500 miles, equal to twice the distance from Trieste to Alexandria.

Westmorland.—Appleby, Kendal.

Wiltshire.—Salisbury, Trowbridge.

Worcestershire.—Worcester, Kidderminster, Dudley.

Yorkshire.—York, Hull (200,000 inhabitants), Doncaster, Leeds (367,000 inhabitants), Sheffield (324,000 inhabitants), Bradford (216,000 inhabitants), Wakefield, Huddersfield, Scarborough, Halifax, Whitby, Middlesbrough.

The *Isle of Man*, in the Irish Sea; the *Isle of Wight*, the *Channel Islands* (Jersey, Guernsey, Alderney, and Sark), and the *Scilly Islands*, all in the English Channel, also belong to England.

2. Wales (12 Counties or Shires).

Anglesey.—Beaumaris, Holyhead. The Island of Anglesey is united to the rest of Wales by the Menai Suspension Bridge, 1000 feet in length, and by the Britannia Tubular (Railway) Bridge, 1840 feet in length.

Brecknock.—Brecon.

Cardiganshire.—Cardigan.

Carmarthenshire.—Carmarthen, Llanelly.

Carnarvonshire.—Carnarvon.

Denbighshire.—Denbigh, Wrexham.

Flintshire.—Flint, Holywell, Mold.

Glamorgan.—Cardiff (129,000), Swansea, Merthyr-Tydvil.

Merioneth.—Dolgelly.

Montgomeryshire.—Montgomery, Welshpool.

Pembrokeshire.—Pembroke, Haverfordwest.

Radnor.—New Radnor.

3. Scotland (34 Counties or Shires).

Northern Counties.

Shetland.—Lerwick.

Orkney.—Kirkwall, Stromness.

Caithness.—Wick, Thurso.

Sutherland.—Dornoch, Helmsdale, Golspie.

North-Western Counties.

Ross.—Dingwall, Tain,

Cromartyshire.—Cromarty.

Inverness-shire.—Inverness, Portree.

North-Eastern Counties.

Nairnshire.—Nairn.

Banffshire. — Banff, Keith, Fochabers, Buckie, Cullen, Portsoy.

Elginshire.—Elgin, Forres, Rothes, Grantown, Lossiemouth, Burghead.

Aberdeenshire. — Aberdeen (125,000 inhabitants), Huntly, Peterhead, Fraserburgh, Inverurie.

Kincardineshire.—Stonehaven, Bervie, Laurencekirk.

East-Midland Counties.

Forfarshire.—Dundee (153,000 inhabitants), Broughty-Ferry, Forfar, Montrose, Arbroath, Brechin, Coupar-Angus.

Perthshire.—Perth, Crieff, Auchterarder, Blairgowrie, Dunblane.

Fifeshire. — Cupar, St. Andrews, Kirkcaldy, Burntisland, Dunfermline.

Kinross-shire.—Kinross, Milnathort.

Clackmannanshire.—Clackmannan, Alloa, Tillicoultry, Dollar.

West-Midland Counties.

Stirlingshire.—Stirling, Grangemouth, Falkirk, Denny, Kilsyth, Alva, Bridge-of-Allan.

Dumbartonshire. — Dumbarton, Helensburgh, Alexandria, Kirkintilloch.

Argyllshire.—Inverary, Campbeltown, Dunoon, Oban.

Bute.—Rothesay, Brodick.

South-Western Counties.

Renfrewshire.—Renfrew, Port-Glasgow, Greenock, Paisley, Barrhead, Pollokshaws, Johnstone.

Ayrshire.—Ayr, Irvine, Kilmarnock, Galston, Saltcoats, Ardrossan, Largs, Dalry, Girvan, Kilwinning, Maybole, Beith.

Lanarkshire.—Glasgow (770,000 inhabitants), Lanark, Rutherglen, Hamilton, Motherwell, Airdrie, Coatbridge, Wishaw.

South-Eastern Counties.

Linlithgowshire.—Linlithgow, Bathgate, Borrowstowness.

Edinburghshire.—Edinburgh (232,000 inhabitants), Leith.
Haddingtonshire.—Haddington, Dunbar.
Berwickshire.—Greenlaw, Duns.
Peeblesshire.—Peebles, Innerleithen.
Selkirkshire.—Selkirk, Galashiels.

Southern Counties.

Roxburghshire.—Jedburgh, Hawick, Kelso, Melrose.
Dumfriesshire.—Dumfries, Annan, Moffat.
Kirkcudbrightshire.—Kirkcudbright, Maxwellton.
Wigtownshire.—Wigtown, Newton-Stewart, Stranraer, Portpatrick.

The *Orkney* and *Shetland Islands*, the *Hebrides* (Staffa, Skye, Lewis, Mull, etc.), *Arran*, and *Bute* are the chief islands belonging to Scotland.

4. Ireland (32 Counties or Shires).

Ulster.

Antrim.—Carrickfergus, Belfast (256,000 inhabitants), Ballymena, Larne, Portrush, Antrim, Lisburn.
Down.—Downpatrick, Newton-Ards, Newry.
Armagh.—Armagh, Lurgan, Portadown.
Monaghan.—Monaghan, Clones.
Cavan.—Cavan.
Fermanagh.—Enniskillen.
Donegal.—Lifford, Ballyshannon, Donegal, Moville.
Londonderry.—Londonderry, Coleraine.
Tyrone.—Omagh, Strabane, Dungannon.

Leinster.

South.—Dundalk, Drogheda.
Meath.—Trim, Navan, Kells.
Dublin.—Dublin, with its port of Kingstown (350,000 inhabitants), Balbriggan.
Wicklow.—Wicklow, Bray, Arklow.
Wexford.—Wexford, Enniscorthy, New Ross.
Kilkenny.—Kilkenny.
Queen's County.—Maryborough, Mountmellick.
King's County.—Tullamore, Birr.

West Meath.—Mullingar, Athlone.
Longford.—Longford.
Kildare.—Athy, Naas, Maynooth.
Carlow.—Carlow.

Munster.

Waterford.—Waterford, Dungarvan.
Cork.—Cork (80,000 inhabitants), Queenstown, Kinsale, Bandon, Youghal, Fermoy.
Kerry.—Tralee, Killarney, Dingle.
Clare.—Ennis, Kilrush.
Tipperary.—Clonmel, Carrick-on-Suir, Cashel, Tipperary, Thurles, Nenagh.
Limerick.—Limerick, Rathkeale.

Connaught.

Galway.—Galway, Tuam, Ballinasloe.
Mayo.—Castlebar, Ballina, Westport.
Sligo.—Sligo.
Leitrim.—Carrick-on-Shannon.
Roscommon.—Roscommon, Boyle.

NATURAL PRODUCTIONS.

1. **Agriculture.**—In the United Kingdom of Great Britain and Ireland, 64% of the soil is productive and 36% unproductive, *i.e.* partly barren and partly occupied by buildings. The productive land includes 30% of arable and garden land, 31% of pasturage and meadow-land, and 3% of wood. In no other country in the world is the soil so thoroughly and so generally utilized; the whole land looks like a well-cultivated garden. And in no other country is the productiveness of the land so stimulated by scientific means, such as drainage, irrigation, the use of artificial fertilizers and agricultural machinery. The chief reasons for this advanced state of agriculture are to be looked for in the smallness of the farms and the high prices commanded by farm produce. There are five agricultural colleges in Great Britain, as well as numerous agricultural societies and model farms.

The system of tenant-farming, as already mentioned, is general throughout the country, and the flourishing state of agriculture in England is ascribed to the parcelling out of the land which naturally accompanies this system. In Ireland, however, the division of the soil among tenants and sub-tenants is carried so far that in some cases barely *one* acre is cultivated by the farmer, a fact which explains much of the misery of the Irish peasantry, since 15 acres are considered the minimum for a successful farm in England.

About £30,000,000 is paid annually in Great Britain and Ireland as agricultural rent.

Since the repeal of the Corn Laws in 1848, the cultivation of grain in Great Britain has steadily decreased. Between 1871 and 1891 about 16% of the corn-land was converted into pasturage, or devoted to other purposes.

The chief grain-producing districts are in the eastern and south-western parts of England and Scotland, and in the south of Ireland. *Barley*, to which the damp climate is peculiarly suited, and which is in great demand for the enormous English brewing-trade, is grown to nearly as great an extent as formerly, while *Wheat* grown in the south-east has greatly declined. The annual produce of *Oats* (used as a bread-stuff in Scotland) has slightly increased.

Potatoes are grown in especially large quantities in Ireland. Before the outbreak of the potato-disease they were the almost universal food of the Irish peasantry.

Flax is an important crop in Ireland. *Hops* flourish in the south of England, where the summers are warmest. They are grown chiefly in the neighbourhood of Canterbury and Worcester; the annual yield (800,000 cwts.) has to be supplemented by importation.

Cambridgeshire and Essex produce *Rape-seed*, *Teasles*, and excellent *Saffron*. *Vegetables* and *Fruit* are raised in great abundance as far north as the north of Scotland.

The *Meadow-land* of Great Britain is exceedingly luxuriant, as the climate is peculiarly favourable to it.

There are almost no *Forests* in England, though Scotland still retains extensive wooded stretches. There is a larger aggregate area under timber in England than in Scotland, however, and in both the area is increasing.

In spite of the advanced state of its agriculture Great Britain does not produce sufficient food to meet the domestic demand, owing to the density of the population, and the necessity of provisioning thousands of ships. Every year enormous quantities of food-stuffs are imported, especially cereals, and in particular wheat and flour. The wheat comes chiefly from the United States, Russia, India, Canada, and Australia, the flour mostly from the United States; total imports of cereals in 1892 £58,000,000. Fruits and vegetables are imported in large and increasing quantities.

2. **Live Stock.**—The magnificent pasture-lands of Britain seem almost a deliberate provision of nature for the carrying on of cattle-rearing; and the British have developed that industry to its utmost limits. No other nation has such fine breeds of horses and cattle.

English *Horses* are not only in no wise inferior to the Arabian breed, but are even in some points superior. They are divided into thorough-breds, half-breds, and cart-horses.

The first, bred from Arabian sires, and with carefully-recorded pedigrees, are purely race-horses or riding-horses, often bringing amazing prices. Horse-breeding forms an important item in the agrarian industry of Great Britain, and is carried on with extraordinary zeal. The care and trouble which it involves are, however, richly rewarded.[1]

Half-bred horses, the offspring of thorough-breds and cart-horses, are especially used as carriage-horses, but are excellently adapted for riding and other purposes.

The English cart-horses, of Frisian origin, are among the largest and strongest breeds in the world, and are used for draught purposes and other hard work.

England contains about 3,000,000 horses.

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[1] The race-horse "Eclipse," which could run 1 mile in 1 minute, brought its owner £25,000 in prizes and was sold for £25,000 and an annuity of £500. The racer "Quibbler" ran 23 miles in 57 min. 10 sec.

British *Cattle* are small-boned, rich milk-givers, and easily fattened. There are about 11,500,000 head of cattle in the United Kingdom, but this supply by no means keeps pace with the annual requirements of this flesh-eating nation, and very large quantities of cattle and dead meat are imported. Formerly the entire amount was obtained from the Continent, but of late years North America has sent an annually-increasing quantity of both live cattle and of meat.

Butter and *Cheese* of great excellence (Stilton, Cheshire, Dorset, Ayrshire) are produced, but in limited quantities, and large supplies of butter come from Denmark, France, and Sweden, and cheese from Canada and the United States. Eggs are imported to the value of £3,500,000.

English *Sheep* have enjoyed a high reputation for centuries, and to this day they are still unsurpassed in point of quality. There are over 33,000,000 head of sheep in the kingdom, yielding annually about 160,000,000 lbs. of wool—an amount, however, which has to be supplemented by large importations from the Australian colonies, South Africa, &c. Large numbers of sheep are fattened for killing.

The breeding of *Pigs* has also attained a very high level in Great Britain, the pigs, when slaughtered, being usually converted into bacon and hams. Ireland, Yorkshire, and Essex are the chief centres of this industry. Immense quantities of bacon and hams are imported from the United States. At present the United Kingdom contains about 4,000,000 pigs.

Asses, *mules*, and *goats*, though kept to some extent, are of little importance as live stock.

The *Fisheries* of England and Scotland are very important sources of wealth to those countries. Flat-fish, haddock, cod, herring, and salmon are the most valuable catches. The herring-fishery is prosecuted chiefly on the Scottish coasts, and the yearly catch is often worth £1,000,000. The total annual value of the fisheries of the United Kingdom amounts to about £7,000,000. At present 32,000 boats and 125,000 men (52,000 Scots) are engaged in fishing. The Irish fisheries are not prosecuted to the extent of which they are capable.

3. **Minerals.**—The mineral riches of England are such as are possessed by no other country, so far as is yet known, with the exception of the United States. The mineral productions far exceed in value and importance the agricultural productions, and amply make up to the inhabitants of Britain the deficiencies in their agriculture and live stock. The chief minerals are coal and iron.

Coal.—The coal-fields of England are amongst its most valuable possessions. They are the foundation of its colossal manufactures and of its extensive commerce by sea and land; they provide one of the chief exports of the country (38,000,000 tons); and they are the source of the high development of the mining and working in metals. The coal-mines of the United Kingdom produce annually about 185,000,000 tons, or nearly one-half of the coal-production of the world, worth £74,000,000. Of that total England contributes about 86°/$_o$, Scotland nearly 14°/$_o$, and Ireland an insignificant quantity.

At present there are about 4000 coal-mines. The largest and richest coal-deposit encircles the Pennine mountains and the Peak district in the form of a huge ring, interrupted at various points. Among the leading coal-fields are those of Newcastle, Glasgow, Leeds, Birmingham, Manchester, South Wales (Cardiff), and Cumberland. English coal is, in point of quality, among the best in the world.

Coal-mining and the coal-trade employs upwards of 520,000 persons. England sends coals to the ports in the Baltic and North Sea (the German ports excepted), the Mediterranean Sea, the Atlantic, the Pacific, and the Indian Oceans.

Iron.—The most important of British *Metals* is *Iron.* The iron-mines of England are so advantageously situated, near, and in some cases in the midst of, the coal-fields, and iron-working is thus so cheap, that few other countries can compete with England, which produces one-half of all the iron raised in Europe.

The chief iron-mines are situated in South Wales, near Birmingham, Stafford, and York, and in the South of Scotland; some also in Ireland. The deposits of ore are sometimes 150 ft. in thickness.

The iron-mines of Great Britain are all in the hands of private individuals or companies, and yield yearly about 8,000,000 tons of raw iron.

Smelting (1000 furnaces) is carried on mainly in the counties of York, Stafford, Glamorgan, and Lanark. In addition to the British ore, about 3,000,000 tons of ore (hematite), imported from Algeria, Spain ($\frac{5}{6}$ of the total), and Sweden, is also smelted in these furnaces, as English iron is not adapted for all kinds of steel.

Since the days of antiquity England has been the best and richest source in Europe for *Tin*. The tin-mines are situated in Devon and Cornwall, and produce annually about 15,000 tons of ore. Throughout the middle ages the tin-mines of Cornwall were a valuable appanage of the English crown.

Lead is worked in Cumberland, Derby, Durham, Wales, and Scotland, the total annual yield being about 50,000 tons.

Zinc (25,000 tons) is found in the Isle of Man and in Wales.

Copper is most abundant in Wales, Cheshire, Cornwall, Anglesey, and Ireland. The produce of the copper-mines is decreasing; at present it amounts to 10,000 tons. Considerable quantities of copper-ore are imported from South America, Australia, and Africa to be smelted in Wales (Swansea).

Little *Gold* or *Silver* (325,000 oz.) is found.

Potter's-clay, *Fire-clay* (2,500,000 tons), and *Slate* (450,000 tons) are worked to a very important extent.

Great Britain produces more *Salt* than any other country (2,200,000 tons). Large quantities are used at home for chemical and other purposes, and much is exported. This industry is not taxed, as it is in many other countries.

The quantity of minerals raised in England increases year by year, but their value is decreasing, owing to the competition of America, Germany, and other states.

MANUFACTURES.

Great Britain (including Ireland) is the leading manufacturing country in the world. It not only produces a larger quantity of manufactured articles than any other country, but there is also no branch of industry which could not be brought to a high pitch of perfection in England. Great Britain owes its commanding industrial position first of all to its mineral riches, and next to the universal use of *Steam-machinery*,[1] to the absence of restrictions on manufactures, the enterprise of its people, its highly-trained workmen, the splendidly developed system of communication, the presence of large capitalists engaged in manufactures, and its extensive colonial empire.

It has been a characteristic of English manufacturers to aim at solid and practical workmanship, until the phrase "English goods" has become almost synonymous with "reliable goods." Finish and taste have been somewhat neglected, but even in these qualities an advance has been made within recent years.

The manufacturing industries are, of course, largely dependent upon the supply of coal, and we therefore find the most active industrial life in the middle and north of England and in Central Scotland, and comparative inactivity in Ireland.

The Textile Industries occupy the leading place amongst the manufactures, the annual value of cotton, woollen, and linen goods produced being about £170,000,000.

1. *Cotton Manufactures.*—The English cotton manufacture received such an impetus from the invention of the spinning-mule (by Arkwright in 1775) and the cotton-gin that it now produces more than one-half of the cotton goods of the world.

England[2] contains 41,300,000 spindles (67% of the cotton spindles in all Europe) and 560,000 power-looms, which produce goods to an annual value of £90,000,000. The number of hands employed is over 500,000 (in 2600 factories), while throughout England about 2,000,000 persons are supported by this industry.

The quality of English cotton yarn and cloth has distinctly improved in recent years, but it is none the less evident that the period of England's undisputed supremacy in the cotton markets of the world is over. The competition of America, India, Germany, etc., is daily becoming keener; though England still maintains its superiority in cotton-yarn, especially of the finer sorts.

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[1] James Watt, 1765.

[2] The following factory-statistics are taken from a parliamentary return made in 1885.—TR.

The chief centres of the cotton industry are as follows:—

a. The *Lancashire* group, the centre and capital of which is *Manchester*, which stands in commercial relations with all quarters of the globe. Here the absorbing theme is cotton; as the local saying has it, "Cotton is king."

Within a circumference of 50 miles lie 280 villages and towns, some of which have over 100,000 inhabitants, which all send their produce, amounting to three-fifths of the total produced in England, to Manchester.

The largest cotton-spinning and cotton-weaving factories are situated in *Manchester*, *Blackburn*, *Oldham*, and *Preston*.

Next to these, but at a wide interval, come *Derby*, *Chesterfield*, *Nottingham*, &c. The last produces chiefly machine-made lace (bobbinets), etc.

b. The *Scottish* cotton-mills are chiefly situated in or near *Glasgow*, which produces more than one-half of the Scottish cotton. *Paisley* has a world-wide renown for cotton thread.

c. In *Ireland*, *Belfast* is the chief centre of the cotton industry, which is, however, comparatively small.

Most of the raw cotton is imported viâ *Liverpool*.

2. *Woollen Manufactures.*—The English woollen manufactures have enjoyed a high reputation for centuries. Comparatively recent developments consist in the extensive manufacture of *shoddy goods* (from torn-up rags, clippings, etc.), of *tweeds*, and of fancy *worsted cloths*.

England has distanced all other nations in this branch of industry (except perhaps the United States). It possesses about 6,145,000 spindles (of which 6,000,000 are in woollen and worsted factories and 96,000 in shoddy factories) and 140,000 power-looms, distributed among 2750 factories.

The annual value of British woollen goods is between £40,000,000 and £50,000,000. The principal centres of the industry are the *W. Riding of Yorkshire*, *Lancashire*, the *West of*

England, and *South of Scotland*. *Broadcloth, etc.*, is made at Leeds, Huddersfield, Stroud, Trowbridge, etc.; *Tweeds* at Hawick, Galashiels, etc.; *Shoddy* at Dewsbury and Batley; *Flannel* in Wales, Lancashire, and Yorkshire; *Tartans* at Paisley and Stirling; *Alpaca, Mohair, and Woollen-damasks* at Bradford and Halifax; *Shawls* in London and Scotland; *Carpets* in London, Kidderminster, Wilton, Halifax, and Glasgow.

About 320,000,000 lbs. of imported and 150,000,000 lbs. of native wool are annually absorbed by the British woollen factories.

3. *Linen Manufactures.*—The British manufacture of linen received such an impetus from Napoleon's continental system that it rapidly distanced all European competitors; now, however, the keen competition of other lands has somewhat checked its triumphant progress.

There are within the United Kingdom 388 flax and 107 hemp factories, employing respectively 111,000 and 10,000 hands. The flax factories have 1,200,000 spindles and 47,000 steam power-looms. Besides the flax grown in Ireland (say 20,000 tons), three times as much is imported, besides 50,000 or 60,000 tons of hemp.

British cotton, linen, and woollen *Yarn* is extensively exported, but most of the yarn is used in Britain itself.

Ireland and also Scotland take a considerable share in this branch of industry.

a. In *Ireland* the linen manufacture is extremely ancient, and forms one of the chief industries of the island. The chief centre is *Belfast*, which contains about 75°/₀ of the Irish spindles. Irish linen of all kinds is famous.

b. In *England* the chief centre is *Yorkshire*, with Barnsley, York, and *Leeds*, where the first spinning-factory was built in 1825. Liverpool and various other seaports produce excellent sail-cloth.

c. In *Scotland* the leading town in this industry is *Dundee*, which, along with Arbroath, Forfar, etc., chiefly produces heavy goods. *Dunfermline* is famous for its damask, and is the chief seat of the manufacture of table-linen in Britain.

The *Jute Industry*, though of comparatively recent origin, has reached a considerable importance. The chief centres are *Dundee* and Glasgow, but there are also large jute-spinning establishments in Belfast and London. About 260,000 spindles and 40,000 hands are engaged in this industry.

4. *Silk.*—The silk industry was introduced into England in 1685 by fugitive Huguenots from France. For a long period the manufacture depended for its existence upon an edict forbidding the importation of foreign silks. Since 1870 this industry has slightly improved, but it cannot meet the French competition, nor supply the domestic demand. Exports to the value of £2,500,000 are counterbalanced by imports to the value of £12,000,000. England obtains raw silk from China and India. The most important silk-weaving places are *Spitalfields*, the first French settlement in London, *Coventry*, *Manchester*, *Warwick*, *Macclesfield*, and *Dublin.*

Metal Industries.—These industries form the second great department of the manufactures of Great Britain. Here, too, that nation has distanced all competitors, not only in the quality, but still more in the quantity and cheapness of its productions.

The abundance of raw material, the abundance and cheapness of fuel, and the excellent means of communication seem to assure England of this supremacy for a long period yet, but it cannot be overlooked that competition with America and Germany is becoming keener every year.

To this day it is a high recommendation for metal goods, just as it is for cotton or woollen goods, when they can be described as "English."

The excellence and cheapness of English goods spring from the highly-developed division of labour, and from the invention of valuable and ingenious machinery (*e.g.* Nasmyth's hammer, in 1839).

The raw material is in reality worked in all parts of the kingdom, but the chief seat of the metallic industries has for hundreds of years been in the midlands, centering in *Birmingham.*

The working in metals is concentrated in and about Birmingham to an almost greater extent than the cotton industry is concentrated in and about Manchester.

The English metallic manufactures include everything that in any way can be brought under that description, from the tiny and hardly visible needle to the anchor that weighs several tons, from the smallest gimlet to the most gigantic steam-engine. Everything is here produced: nails, needles, hooks, rings, buckles, locks, spurs, steel-pens, knives, scythes, sickles, swords, daggers, Britannia-metal goods, copper goods, nickel-silver goods, plated goods, etc. etc.; and everything in various graduated qualities.

Some of the leading branches of this industry must be specially noted. Great Britain produces annually 3,500,000 tons of *Steel*, which is much more than that produced by any other country except the United States. The discoveries of Bessemer, Siemens, and Martin have enabled steel to be substituted in many cases for iron, and explain the enormous consumption of steel for bridges, railways, ships, and other purposes. Large quantities of steel armour-plates are manufactured at Sheffield. Steel cannon are made at Newcastle and near Manchester. England possesses *Iron Foundries* of all kinds, and produces *Steel Rails* in great quantity.

Machinery is made in 2000 machine-shops, employing 200,000 hands. England produces machinery of every imaginable kind, and finds a market for it all over the world. Among the chief towns engaged in this industry are London, Birmingham, Manchester, Glasgow, and Newcastle.

Cutlery of all kinds is made at Sheffield, etc.

Wire and *Wire-ropes* (40,000 tons) are produced at Birmingham, Manchester, and Sheffield.

Weapons.—Birmingham manufactures swords, fire-arms, and ammunition for all the nations in the world.

English *Anchors* and *Cables* (60,000 tons) are the best in the world.

Nails and *Screws*, 15,000 tons.

Birmingham alone produces 800,000,000 *Steel Pens* per annum, for which 500 tons of fine steel are used.

Needles are made at Redditch.

Locks and *Hardware.*

Copper-founding and *Coppersmith's Work* is carried on in South Wales; and *Zinc-founding* in London. *Tin* is worked in South Wales; *Lead* in South Wales and Durham; *Brass* in Birmingham, Sheffield, and London; *German Silver* in the same towns; *Gold* and *Silver Plate*, etc., is made at Sheffield, Birmingham, and London; a vast variety of ornamental articles at Birmingham.

Clocks and *Watches, Optical, Philosophical,* and *Surgical Instruments* are made in unrivalled perfection in London, Liverpool, Sheffield, and Birmingham.

Earthenware and Glass.—*Earthenware.*—The abundance of raw material has combined with various important discoveries (Josiah Wedgwood, 1730) to raise this manufacture to a very high level. The annual produce is valued at between £10,000,000 and £12,000,000. England alone has upwards of 500 porcelain factories, chiefly in "The Potteries," a district in Staffordshire, of which Stoke-upon-Trent is the capital. It is said that about a thousand pounds' worth of gold is used daily in gilding the porcelain.

England exports the finer varieties of earthenware, chiefly to America, Australia, and Asia, but also to some extent to the Continent. The value of the exports is £2,000,000—£3,000,000.

The *Glass Manufacture* of Great Britain is very important, but does not by any means occupy such a commanding position as the earthenware industry, since it can compete with Continental factories only in the finest sorts (plate-glass, mirrors, etc.). England produces glass to an annual value of £3,000,000, and exports scarcely one-third of that value to the Colonies and America, while it imports common glass-ware from Belgium, Germany, and Bohemia to the value of at least £2,000,000.

The most important glass-works are at Birmingham, London, St. Helens, Newcastle, and Glasgow.

Chemicals. — The celebrated chemical factories of Great

Britain are distinguished for their great size[1] and their enormous production, while on the other hand the English people have done little for scientific chemistry, and frequently have German managers for their factories. The following are the leading chemical products of Great Britain:—

Soda (the largest production in the world), made at Newcastle, Liverpool, Glasgow, and Bristol; *Sulphuric Acid*, at Swansea, Newcastle, Glasgow, etc.; *Phosphorus* and *Pharmaceutic Preparations*, at London and Edinburgh; *Iodine*, manufactured from sea-weed, chiefly at Glasgow; *Alkali*, *Artificial Manures* (120 factories), *Colours* (London), *Perfumes*, *Oil*, *Soap*, and *Candles*.

Brewing is carried on in England on an enormous scale; about 1,100,000,000 gallons of malt liquor are annually produced by its 27,000 breweries. London contains the largest establishments of the kind, including 5 which each produce from 10,000,000 to 20,000,000 gallons per annum. The capital embarked in the brewing trade is estimated at £200,000,000.

The best-known varieties of malt liquor are London porter and Burton and Edinburgh ale. Dublin is famous for its stout.

About 1,000,000 tons of raw *Sugar* from the Colonies are annually prepared in English sugar-refineries, the largest of which are situated in London, Liverpool, Bristol, Dublin, Greenock, and Edinburgh.

Tobacco is manufactured in London, Liverpool, and Bristol in yearly-increasing quantities.

Other Leading Industries.—The *Leather Trade* is one of the leading industries of Great Britain. It includes not only the preparation of leather, but also the manufacture of leather goods, and employs 400,000 persons. The raw material is nearly all imported (hides 1,200,000 cwts.; 13,000,000 skins), chiefly from British India, the Colonies, and South America. London is the principal market.

There are about 800 large *Tanneries* in the United Kingdom, the largest being in London, Cheshire, Lancashire, and Lincolnshire.

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[1] The St. Rollox Chemical Works at Glasgow have a chimney-stalk 455 feet high, the loftiest building in Great Britain, with the exception of a neighbouring chimney 13 feet higher.

The *Saddlery* and *Harness* of London and Birmingham are much prized.

Shoes are produced chiefly in London and Staffordshire, to an annual value of about £10,000,000. About 250,000 hands are employed in their manufacture.

Gloves are made best in Worcester and at Woodstock, near Oxford; but about 14,000,000 pairs are annually imported, chiefly from France.

The fancy leather goods of London are celebrated.

The total annual value of British leather goods is between £16,000,000 and £18,000,000.

Paper.—In this manufacture England claims the first place in the world for quality, though as regards quantity the United States are far ahead. The annual production of the United Kingdom amounts to about 400,000 tons (valued at £12,000,000), the rags for which are chiefly obtained from the Continent and the Colonies. Various other materials have come into use for the manufacture of paper, *e.g.* straw, wood-pulp, esparto-grass (in great quantities) from Spain and Africa, etc. The finest varieties are still made by hand. Immense quantities are used up for newspapers and other periodicals, as well as for books.

England exports paper to an annual value of £1,700,000, and printed books to the value of £1,300,000; balanced by an import of paper of the value of £2,000,000.

Clothing.—Clothing, trimmings, etc., are produced on a large scale, for export to the Colonies and to the Continent; the exports annually representing £7,000,000.

Caoutchouc goods are exported to the value of £1,200,000. A very large quantity of this substance is worked up and consumed in the country itself, the value of the caoutchouc imported amounting to about £3,000,000 annually.

Hats.—Hats to the value of £1,300,000 are annually exported, chiefly to the Colonies.

Bone and *Horn.*—The manufacture of buttons, combs, etc., of these substances is of considerable importance.

Cork, *Furniture*, *Carriages*, and innumerable articles of domestic use are also manufactured.

Ship-building.—The ship-building industry of Great Britain corresponds to the importance of its trade, which is so predominantly maritime. The largest dock-yards and ship-building yards are engaged in building merchant ships, 1000 of which, including 500 steamers, are annually launched.

All the resources of mechanical skill, all the newest improvements and inventions, are pressed into the service of this highly-developed national industry, and capital shows an elsewhere quite unparalleled inclination to new undertakings and experiments. A highly-important new departure has been recently brought about by the increasing use of steel in place of iron in ship-building.

Many ships are built in England to the order of foreign customers.

The leading ship-building yards are situated on the *Clyde* (Glasgow, Greenock), the *Tyne* (Newcastle, N. and S. Shields) and the *Wear* (Sunderland); others are at Belfast, Hartlepool, Middlesbrough, and Barrow.

TRADE AND COMMERCE.

Great Britain is the first commercial nation in the world; its trade is world-wide in the fullest sense of the term. The fifth part of the entire trade of the globe, and the third part of the entire trade of Europe pass through English hands. All the nations of the earth have commercial relations with England. The British have possessions in every quarter of the globe, far surpassing the mother-country in size. The British flag penetrates to the remotest parts of the most distant seas.

There are many causes for this position of the British, causes which facilitate and support each other. Among the chief of these must be reckoned the favourable position of the country amongst the most productive and wealthiest lands of the earth; the enterprising spirit of its people, who resolutely and tirelessly pursue their aims when they are recognized as practicable, and who generally obtain them; the extraordinarily favourable situation of the country, with its almost unparalleled development of coast-line (80 large harbours); its richness in capital, and in coal and other minerals; its numerous colonies, which contribute raw material at a low cost and furnish a ready market for the manufactures of the mother-country; and, finally, the discoveries of the gold-fields of California and Australia, which have lent a powerful impulse to trade and manufactures.

These favourable conditions, which could not avoid making the British people a trading power, have been seconded by the British government to the full extent of its power. Keeping their eyes steadily on the manufacturing and commercial interests of the country, the rulers of Britain have concluded commercial treaties everywhere, even in the remotest parts of the earth, while the insular position of their country has protected it from hostile invasion for 800 years.

Thus England has become the leading commercial power in the world in a manner that has never been paralleled.

I. Domestic Trade.—The domestic trade of Great Britain is everywhere, as was only to be expected, in a state of the greatest prosperity. It has been developed in a unique manner, corresponding to the insular position of the country. Speaking generally, we may say that no European people recognized so early the importance of developing the means of communication, or carried its conviction so thoroughly into action. England was for a long period the instructress and pattern for other nations in all questions relating to methods of traffic. It is only recently that the pupils have begun to excel the teacher in this department, as also in trade and manufactures.

The domestic trade is facilitated and supported by:—

1. The development of the *Coasting Trade*, which in 1891 was carried on by 10,886 ships, including 2211 steamers, with a total burden of 911,682 tons, and by the navigable *River* and *Canal Systems*, though many of the canals can no longer meet the growing requirements of the day.

2. The *Railways*, which are solidly constructed, and almost always have double lines of rails. The rapidity of the trains

(up to 52 miles per hr.) and the lowness of the fares contrast favourably on the whole with Continental railways.

The railway that formed the real beginning of railway construction was opened in 1830, between Manchester and Liverpool. The importance of this result was speedily recognized, and at the end of 1892, 20,300 miles (over $\frac{2}{3}$ being in England) were open, so that the country is literally covered with a network of railways, reaching to the remotest corners. The gross receipts of the English railway companies in 1891 was £78,000,000, and the net receipts £33,000,000. The capital invested in railways in that year was about £920,000,000, obtaining an average interest of nearly 4%.

The *High-roads* are abundant and good.

The *Post-office* and *Telegraph-office* have been united in the hands of government since 1870, and transact an enormous amount of business. Until modern times the English post-office was far in advance of that of any other country, especially in the matter of internal organization (penny post, introduced by Rowland Hill); but Germany and Austria have now overtaken it. In these countries government maintains a posting system for passengers.

The amount of business transacted by the English post-office corresponds with the world-wide trade of the country, and is far in excess of that of any other country. It possesses 19,000 offices, which transmitted in 1891–92, 1,767,500,000 letters, 1,241,600,000 post-cards, 658,000,000 newspapers and book-packets, and 60,000,000 money and postal orders of a total value of £44,000,000. The mails for foreign countries are carried by private shipping companies, which receive a subvention from the state.

The government owns 32,000 miles of telegraph-lines, with 195,000 miles of wires; the number of offices is 7700, which transmitted 66,000,000 messages. Submarine cables connect Ireland and the other larger islands with England and Scotland.

II. Foreign Trade.—This active domestic trade is in great measure dependent upon the much greater foreign trade, which embraces the entire globe.

The foreign trade of Great Britain includes every conceivable department of commerce. Every marketable commodity is found in English markets, and in some departments the British have an almost undisputed monopoly.

Perhaps the British foreign trade may be best summed up somewhat as follows:—The raw materials and produce of the whole world flow into Britain, which pays for them with its manufactures.

It is here that the great value and advantage of the English trade lies, as compared, for example, with the trade of the Dutch. The latter must procure foreign manufactures to pay for their imports, while the British themselves manufacture the raw material, and dispose of the manufactured article at a high price in the very spot whence they obtained the raw material at the lowest cost. In this way the great trading firms and the great manufacturing firms work into each other's hands, a fact which goes far to explain how English-made goods are cheap as well as solid.

One of the chief factors in the foreign trade is the *British Mercantile Marine*, the foundation of England's wealth and power, and an object of veneration to every Englishman. In 1891 the merchant navy included 13,823 sailing-ships of 2,972,093 tons burden, and 7720 steamers of 5,307,204 tons burden, a total of 21,543 vessels, with an aggregate burden of 8,279,297 tons. If the colonial ships sailing under the British flag be included, the total rises to 36,085 ships, with a burden of 9,961,574 tons.

Nearly 300 war-ships at sea command all necessary respect for this merchant navy; so that Britain is really without a rival upon the ocean.

Many of the merchant ships belong to large *Shipping Companies*, which maintain regular communication between Britain and the chief ports throughout the world by means of so-called *Steam Packet Lines*. (See Appendix.)

London and *Liverpool* are by far the chief ports, the chief outlets for the gigantic foreign trade of Britain. About 36% of the imports and 26% of the exports of the entire kingdom pass through London, about 25% of the imports and 36% of the exports through Liverpool.

London, with its five million inhabitants, is the greatest commercial town in the world; it is the universal exchange, and it is the focus of innumerable interests, stretching into every quarter of the globe. The gigantic docks of London show the most enormous and the most varied concourse of goods that can be imagined in any one trading centre. The London market controls the price of tea, wool, hides, and Indian colonial produce throughout the world.

Liverpool occupies the same commanding position with reference to cotton, rice, and other cereals. The docks of Liverpool are equally famous with those of London, the Birkenhead docks being also considered as belonging to Liverpool.

Hull, *Glasgow*, *Southampton*, and *Harwich* are the next seaports in point of importance. But some of the inland towns of England also occupy leading positions as international trading centres. Thus *Manchester* is the chief market in the world for cotton goods, *Sheffield* and *Birmingham* for metal goods, *Leeds* and *Bradford* for woollen goods. By means of its great ship canal Manchester will soon be in a position to rank as a seaport.

London, *Dover*, *Newhaven*, and *Folkestone* are the chief conduits for the large trade with France. *Cardiff* and *Newcastle* export coal, the former being far ahead of any other port in the world in this export.

Bristol, *Newcastle*, and *Leith* also deserve mention as seaports. The Irish ports have a small amount of foreign trade in comparison, the chief being *Dublin* and *Belfast*.

The *Telegraphic Communication* between England and the rest of the world is very perfect. All the larger British possessions are now connected by telegraph with the mother-country, and through her with Europe.

England is connected with the Continent by submarine cables between Dover and Calais, Dover and Ostend, Folkestone and Boulogne, Southampton and Cherbourg, Southampton and Brest, and also by cables to Emden, the Hague, Denmark, Norway, and Spain (Santander).

Reuter's Bureau provides not only England, but the entire civilized world, with news collected from all quarters of the globe.

The *Commission* and *Financial Agencies* of Great Britain extend their operations over the entire globe. Most of the other commercial nations are more or less dependent upon England in this respect, for as a large amount of their imports and exports are conducted *viâ* England, they have to draw their bills upon London, or avail themselves of the English Colonial banks. In this way England has a certain control over the trans-oceanic trade of other lands.

Commercial Companies.—Among the most important factors in British foreign trade, next to its merchant navy, must be reckoned the great commercial companies. At one time some companies enjoyed monopolies; now they are merely private associations. They may be divided into the following classes:—

1. *Carrying Companies*, engaged in maintaining communication by land (railways and canals) and sea. Among the leading *Steam Packet Companies* are the Peninsular and Oriental Steam Navigation Co. (the famous "P. and O. Company"), the Royal Mail Steam Packet Co., the British India Steam Navigation Co., the Cunard, Guion, Allan, White Star, and Anchor Lines, and the numerous companies whose boats ply to the Continent. (Details in appendix.)

2. *Telegraph Companies*, now entirely engaged in maintaining telegraphic communication by submarine cables.

3. *Insurance Companies* are exceedingly numerous; there are upwards of 100 life assurance companies. The chief companies have their offices or agencies in London.

4. *Dock Companies* store imported goods in their warehouses on guarantee, issue warrants for the same, and in this way much facilitate traffic.

5. *Banks and Financial Companies.*—No other country in the world, with perhaps the exception of the United States, has so extensive a system of such companies, for in no other country has the system of credit been so skilfully developed. The chief bank is the *Bank of England*, founded in 1694, the leading

financial institution in the world, with a capital of £15,000,000. Besides its own extensive banking business, the Bank of England manages the National Debt for the government, and attends to the coining of money. It enjoys the right of issuing notes, which are legal tender throughout the whole of England. The shareholders in English banks have in some cases a limited, in others an unlimited liability, for the debts of the banks.

The *Banker's Clearing-house* in London is an institution in which the various banks mutually compare and balance the cheques accepted by each on the others' behalf during the day. The balance of value is paid in cash. In 1887 the business transacted here represented a value of £6,000,000,000, showing a daily average of £18,000,000.

6. *Joint Stock Companies* for manufacturing and industrial purposes. Some of these have capitals reckoned by millions of pounds.

But although the British are enterprising in adopting new business arrangements, they are equally obstinate in adhering to their own system of weights and measures and coinage. Were England to adopt the metric system, or any common standard of coinage, that system or standard would speedily become universal throughout the world.

Customs and Duties.—England favoured the protective system until she had obtained the supremacy in the markets of the world; since then she has been the most pronounced advocate of free-trade. The existing English customs-dues are imposed for revenue purposes alone.

Raw materials and manufactures are subject to no import duties; tea, coffee, currants, tobacco, spirits, wine, etc., pay duty.

The customs revenue amounts to about £20,000,000; and the amount derived from excise duties is about £25,000,000.

The English have concluded advantageous *Commercial Treaties* with all the trading nations of the globe, *Consuls* are everywhere appointed to protect the interests of the nation and its subjects, and in fact few nations enjoy such a world-wide respect as the British.

The consequences of these institutions are most apparent in the enormous totals of the imports and exports.

Imports and Exports.—In 1892 the *Imports* of merchandise to Great Britain amounted in value to £423,900,000; and the *Exports* to £291,000,000. Of the latter sum, British products represented £227,000,000, and foreign and colonial products £64,000,000. The import of gold and silver was £32,000,000; the export £29,000,000.[1] The imports and exports embrace, as a matter of course, every possible mercantile commodity; only a few of the most important articles can be here mentioned.

The chief classes of *Imports*, arranged according to their values, were in 1892: *Food-stuffs*, £188,000,000; *Raw Materials, Metals, etc.*, £147,000,000; *Manufactures*, £65,000,000; *Miscellaneous Goods*, £22,000,000. The leading separate kinds of goods imported were raw-materials for textile goods, £77,600,000; grain, £60,000,000; animals and animal food, £58,000,000; sugar, tea, coffee, etc., £34,000,000; silk, cotton, and woollen goods, £25,000,000; seeds and fruit, £14,000,000; timber, £17,000,000; chemicals, dyes, oils, £14,000,000; metals and ores, £21,000,000.

In point of quantity the following deserve mention:—Grain, meal, and flour, 159,000,000 cwts.; sugar, 27,000,000 cwts.; tea, 239,000,000 lbs. (207,000,000 lbs. of which were for consumption in the country); cattle, 500,000 head; butter, 2,000,000 cwts.; cheese, 2,200,000 cwts.; wine, 17,300,000 gallons; spirits, 12,000,000 gallons; cotton, 15,850,000 lbs.; wool, 737,000,000 lbs.; flax and hemp, 3,500,000 cwts.

By far the most important *Exports* are the manufactures and the native minerals of the country.

The leading classes of exports, arranged according to their value, are:—Cotton goods, £56,000,000; woollen goods, £18,000,000; linen and jute goods, £7,000,000: total textiles and yarn, £100,000,000; machinery and mill-work, £14,800,000; metals and other articles manufactured therefrom, £33,000,000; fuel, £17,000,000; apparel and articles of personal use, £10,000,000; articles of food and drink, £10,000,000; chemicals, drugs, etc., £8,600,000.

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[1] The value of foreign merchandise transhipped at British ports is also great. In 1891 these transhipments were valued at £10,000,000.—TR.

FOREIGN POSSESSIONS OF GREAT BRITAIN.

The colonial empire of Britain is of comparatively modern origin. Even in the days of Elizabeth Britain was merely an insular kingdom in the west of Europe; to-day it is a world-wide empire, with possessions in every continent. The colonial possessions, along with the mother-country, form a systematically-arranged organism, whose separate parts, though in many cases quite autonomous, are bound together by a thousand ties. Perhaps the strongest tie of all is the resolution with which Englishmen cling to their national peculiarities whatever their circumstances, and the pride they take in the empire to which they belong. The colonies are of great value and importance to the mother-country in various ways. In particular, they are cheap producers of raw material, and solvent purchasers of the manufactured articles. Yet the trade between Britain and her colonies, estimated by the value of exports and imports, does not amount to one-third of the total external trade of the British islands. And the colonial governments have no hesitation about levying heavy duties on various imports from the mother-country, whenever they believe that this makes for their own prosperity.

The British colonies may be divided into settlements occupying important strategic positions, commercial colonies or settlements, and agricultural colonies. The chief British possessions are detailed below.

I. EUROPEAN POSSESSIONS.

These possessions are considerable neither in size nor in productions; their value consists wholly in their position; they are important to the naval power of Britain.

1. **Gibraltar**, a rocky peninsula, 1400 ft. high and 1⅞ square mile in area, in the extreme south of Spain, has belonged to England since 1704, and is considered to be an impregnable fortress. Although its importance is no longer so great as it was, "the Rock" still commands the entrance to the Mediterranean, and is an important coaling-station and port of call for ships. It is a free port.

The town, which has 20,000 inhabitants, is a station of the submarine cable from England to India, and carries on considerable trade with Spain and Morocco.

2. **The Maltese Islands** (Malta, Gozo, and Comino), a small group in the Mediterranean Sea, with an area of 143 square miles and 177,000 inhabitants (including the garrison), are among the most densely populated spots in the world. The island of Malta, on which lies *La Valetta*, is of great strategic importance to the British, both on account of the excellence and the size of its harbour; but its position between the eastern and western halves of the Mediterranean, and between Africa and the Levant, is also commercially advantageous. This latter fact is evidenced by the number of ships (chiefly steamers) which touch here annually. Malta is one of the chief coaling-stations and cable-stations in the Mediterranean.

Malta is highly cultivated, but the soil is generally rather thin. Some districts have been brought under cultivation by covering them with earth imported from Sicily at a great expense.

Cotton, potatoes, onions, fruits, and grain are the chief products. Early potatoes and onions are sent to England.

Italian is the language of commerce as well as of the common people.

II. ASIATIC COLONIES.

1. CYPRUS.

Cyprus, in the Syrian Sea, was ceded to England by Turkey in 1878. It has an area of 3600 square miles, with a population (mostly Greeks) of 186,000. It is mountainous in character, some points reaching 6500 ft., well watered, and exceedingly fruitful. In antiquity and during the middle ages Cyprus was a prosperous and wealthy island, but it declined so seriously under the Turkish rule that long years of arduous toil will be required before its rich resources can be revived by the English. *Wine*, southern fruits, cotton, and copper are the chief products.

The strategic value of this island consists in the fact that it commands the Suez Canal and part of Syria.

2. BRITISH INDIA.

British India, including the British possessions in Farther India but excluding Ceylon, has an area of 944,108 square miles, and a population (1891) of 220,000,000. The Native States embrace a farther area of 643,000 square miles and a population of 66,000,000.

This immense empire of Hindostan is insulated from the rest of Asia by the almost impassable ranges of the Himalayas, the Hindoo Kush, and Suleiman Mountains, and by the sea, so that a quite peculiar civilization and a peculiar social system has here developed itself.

India is peopled by a mixed race, in which the descendants of the Aryan Hindoos predominate (150,000,000). In the south dwell about 20,000,000 people of a non-Aryan Dravidian stock; and the remainder is made up of Arabs, Parsees, Mongolians, etc. The Europeans, about 121,000 in number, including both the commercial and military elements, form a startlingly small fraction of the total. In addition there are probably about 110,000 Eurasians, *i.e.* the progeny of Hindoos and Europeans. This enormous population is united neither in religious, social, nor political views.

The leading *Religion* is Brahmanism, the professed creed of the majority of the Hindoos. It reckoned 207,000,000 adherents in 1891. Most of the northern Mongolian peoples are Mahometans (about 57,000,000), and it is among these that the greatest resistance was offered to the English. Buddhists number about 8,000,000; Christians, about 2,300,000.

The Caste-system still prevails among the natives, who are divided into Brahmans (priests and scholars), Kshattriyas (soldiers), Vaisyas (peasants and mechanics), and Sudras (servants). Below these come the despised out-castes or Pariahs.

The lower castes have been accustomed to labour for the upper castes for thousands of years under the most oppressive regulations. Politically the country has been divided for centuries among numerous small independent states (about 150), the rulers of which regard each other with blind and jealous hatred.

These facts explain how it is that a handful of Englishmen (not more than 120,000) is able to control and utilize 200,000,000 natives. A universal national rising is impossible under the circumstances, and the English are always able to find native adherents to support their authority. The influence of the English upon the manners and customs of the natives has as yet been by no means profound.

PHYSICAL FEATURES.

Hindostan is divided into three distinctly defined physical regions—viz., the Himalaya mountain district, the North Indian plain, and the plateau of the Deccan.

The colossal range of the *Himalayas*, 1500 miles long, stretches along the north of the country, forming at the same time the southern boundary of the plateau of Central Asia. The range consists of several parallel chains, the most northerly of which is the loftiest. The average height of the crest is 17,700 ft. and of the passes 16,000 ft. Mount Everest or Gaurisankar, the highest mountain in the world, rises to the height of 29,000 ft. Towards the west the Himalaya range is continued by the Hindoo Kush, from which the lofty Suleiman and Hala chains stretch to the south, forming the western boundary of India.

The great *North Indian Plain*, well watered and for the most part well cultivated, stretches to the south of the Himalayas. To the east of the delta of the Indus, however, the Desert of Tharr extends from S.W. to N.E., almost to the base of the Himalayas.

The south of the country is occupied by the triangular *Plateau of the Deccan*, from 1600 ft. to 3000 ft. high. Bounded on the north by the Vindhya Mountains, which form its base, the triangle is defined by the Western Ghauts, above the fertile and hospitable *Malabar Coast*, and by the Eastern Ghauts, above the *Coromandel Coast*, which is, on the other hand, difficult of access. In the extreme south rise the Nilgherry (8500 ft.) and the lower Aligherry Hills.

RIVERS.

1. In the basin of the Persian Gulf: the *Indus* (Sind), which receives the Cabul and the Punjnâd, or united waters of the Punjab (land of the five streams).

2. In the basin of the Gulf of Bengal: the *Ganges*, with its tributary the Jumna. This river, uniting near its mouth with the *Brahmapootra*, which rises to the north of the Himalayas, forms the immense delta, known as the Sunderbunds.

The Godavery, Kistna, and Cauvery descend from the Deccan.

The only important navigable stream is the majestic and smoothly-flowing Ganges. The Indus and the Deccan streams are too impetuous for convenient navigation.

The *Irrawaddy* and the Saluen enter the Bay of Bengal from Further India.

Besides the rivers India possesses a large number of artificial water-channels, but these have been constructed chiefly for irrigation purposes and not as means of communication.

CLIMATE.

India, in virtue of its great extent and the various altitudes of its different parts, includes many different climates. As a whole, however, these may all be described as more or less tropical.

Among the Himalayas an Alpine climate prevails, varying according to the altitude above the sea-level. This massive wall arrests the clouds coming from the south, and compels them to part with their moisture, so that the plain of the Ganges is peculiarly well-watered.

The Indian plains are, especially in summer, sultry, unhealthy, and partly barren (desert of Tharr). On the other hand, the Deccan and the slopes of the Himalayas enjoy a temperate climate. The climate of the Nilgherries is the pleasantest of all, and several sanatoria for Europeans have been established there, as well as on the Himalayas.

Throughout the entire country there are only two annual seasons, the dry season and the rainy season. The rainfall depends upon the monsoons. On the Malabar Coast the rainy season begins with the south-west monsoon, and lasts from May till November; on the other hand, the rainy season on the Coromandel Coast, following the south-east monsoon, lasts from November to March. As the mountains on the coast intercept the clouds the interior of the Deccan is so poorly supplied with streams that it has to be artificially provided with water. If there is a scarcity of rain the crops fail and famines ensue, resulting in the death of millions of the inhabitants. India and the adjacent seas are frequently visited by destructive hurricanes called typhoons.

As a rule, the climate of India, except in marshy districts, is not unhealthy for Europeans, if they take the ordinary precautions.

DIVISIONS AND CHIEF TOWNS.

By an act, sanctioned on August 2nd, 1858, the administration of the British possessions in India was transferred from the East India Company to the Crown. They were divided into the three presidencies of Bengal, Madras, and Bombay, but the first of these was afterwards subdivided into several provinces, and its name has now no administrative significance. The lieutenant-governors, chief-commissioners, and other officers at the head of these divisions are subordinate to the Governor-General or Viceroy, representing the Queen of England, who assumed the title of Empress of India in 1877.

1. **Lieutenant-Governorship of Bengal** (149,725 sq. m.; 70,909,260 inhab.). *Calcutta* (840,130 inhab., including suburbs), in a somewhat unhealthy situation near the mouth of the Ganges (on the Hoogli), is the seat of the governor-general and of the lieutenant-governor of Bengal. This city, surnamed the London or Paris of Asia, unites the life and luxury of the East and the West. *Patna* (167,000 inhab.); *Gaya* (80,000 inhab.).

2. **Lieutenant-Governorship of the North-Western Provinces and Oude** (106,104 sq. m.; 46,931,000 inhab.). *Allahabad* (176,000 inhab.) is the capital. *Benares* (222,000 inhab.);

Agra (168,000 inhab.); *Cawnpore* (182,000 inhab.); *Lucknow* (273,000 inhab.), the capital of Oude; *Bareilly* (122,000 inhab.); *Meerut* (118,000 inhab.).

3. **Lieutenant-Governorship of the Punjab** (111,016 sq. m.; 20,807,020 inhab.). *Lahore* (176,000) is the capital. *Delhi* (193,000 inhab.); *Amritsar* (136,000 inhab.); *Peshawar* (84,000); *Mooltan* (74,000); *Rawal Pindi.*

4. **Chief-Commissionership of the Central Provinces** (86,501 sq. m.; 10,774,890 inhab.). *Nagpore* (118,000 inhab.); *Jubbulpore* (84,000 inhab.).

5. **Chief-Commissionership of Burma**[1] (156,142 sq. m.; 7,554,410 inhab.). *Rangoon* (181,000 inhab.); *Mandalay* (188,000 inhab.); *Moulmein* (58,000 inhab.); *Bassein; Akyab.*

6. **Chief-Commissionership of Assam** (46,341 sq. m.; 5,424,190 inhab.). Adjoining Assam is the district of *Rangpur.*

7. **Ajmere, Berar, Coorg,** and the **Andaman Islands** (comprising together about 22,885 square miles, with a population of 3,611,000) are under the governor-general.

8. **Presidency of Madras** (140,762 sq. m.; 35,591,440 inhab.). *Madras* (450,000 inhab.), on the Coromandel Coast. *Trichinopoli* (90,000 inhab.); *Calicut* (65,000 inhab.); *Madura* (87,000 inhab.); *Bellary; Tanjore.*

9. **Presidency of Bombay** (125,394 sq. m.; 18,826,820 inhab.). *Bombay* ("good harbour;" 804,000 inhab.), on a good harbour which first attracted the Portuguese to the site. *Poona* (160,000 inhab.); *Ahmedabad* (146,000 inhab.); *Surat* (108,000); *Kurrachee* or *Karachi* (104,000) on the seaboard. *Hyderabad,* on the Indus, was the capital of the former kingdom of Scinde.

The chief Native or **Feudatory States** are:—

Hyderabad or the *Nizam's Dominions* (pop. 11,500,000), with the towns of Hyderabad (312,000 inhab.) and Aurangabad.

Baroda, the Guicowar's State. *Indore, Malwa,* and *Gwalior,* in the Central India Agency.

Mysore, with the towns of Mysore and Bangalore.

Travancore in Madras.

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[1] Upper Burma, acquired in 1885, added about 69,000 sq. m., with a pop. of about 3,000,000 to British India.—Tr.

Cashmere or *Kashmir* is a feudatory kingdom, with an area of 80,000 square miles and a population of 2,511,000. The chief towns are *Srinagar* and Jamu or Jummoo. The governorships of Ladakh and Baltistan are included in Cashmere.

The *Laccadive* and *Maldive Islands* lie off the Malabar Coast.

NATURAL PRODUCTIONS.

1. **Agriculture.**—The chief productions of India, whose name was at one time regarded as a synonym for boundless wealth, are the fruits of tropical agriculture, or in other words, *Colonial Produce* in the widest sense. Land is held on various tenures, but the government's land-tax is everywhere a first charge upon it. In some districts this tax is settled in perpetuity, in others for a term of years. The cultivators are in most cases either owners or occupiers, not mere labourers. The land is farmed often in minute parcels, and cultivated with great care. The land-tax yields the government of India a revenue of from £20,000,000 to £23,000,000. About 70% of the population are employed in cultivating the soil, while only about 3% reside in towns of over 50,000 inhabitants.

The most valuable vegetable products of India, from a mercantile point of view, are as follows:—

Rice, the chief food of the Hindoos as well as of the inhabitants of all Eastern Asia, is grown chiefly in Lower Burma and Bengal as well as in Assam and elsewhere in wet districts. In Bengal there are two main rice-harvests in the year, in Burma only one; in good seasons large quantities are exported.

Wheat is raised in such quantities that in some years it is exported to the value of £10,000,000, and India has become a formidable rival to the grain-growing countries of Europe and America. It is a striking fact that India can now produce cheaper wheat than North America.

Fibre-crops stand next in importance.

Cotton is cultivated throughout the entire country, but most successfully in the Bombay Presidency. The great prosperity of this ancient branch of agriculture dates from 1863, when the civil war in the United States of America interrupted the supply of American cotton; and it reached its zenith in 1865, since which time it has greatly declined. In 1890–91 6,000,000 cwts. of raw cotton, of the value of £12,000,000, were exported.

Jute now claims the second rank among the fibrous plants of India. The damp warm climate of Bengal renders that province more suitable for jute cultivation than any other region in the world, and jute has been grown here, though in limited quantities, from the earliest times. It is only since about 1830, however, that its manufacture has grown up in Europe, Dundee being the first and still the chief centre of it. In 1891 India exported 12,000,000 cwts. of jute, of the value of £6,000,000.

Among vegetable products *Opium* takes a highly important place. The cultivation of this drug is regulated by government, and its preparation is limited to certain districts (Patna, etc.). The tax upon opium brings in a revenue of between £6,000,000 and £7,000,000 to the Indian government.

Tea, which grows wild in Assam, is cultivated on a yearly-increasing scale both in Assam and elsewhere. In 1892 about 112,000,000 lbs. (worth £4,800,000) were exported to Great Britain. The cultivation of *Coffee* is extending.

Linseed and other *Oil-seeds* are now an important agricultural product and export of India.

Sugar is produced in Madras and the North-West Provinces.

Pepper flourishes on the Malabar Coast. *Ginger*, *Cassia*, *Cardamoms*, and *Cocoa-nuts* are also produced.

Indigo is cultivated to the best advantage in Northern Bengal. The annual export, worth from £3,000,000 to £4,000,000, is chiefly sent to London.

The cultivation of the *Cinchona tree* (Peruvian Bark, Quinine), introduced into India in 1860, has made gratifying progress.

The most valuable timber obtained from India is *Teak*, which is peculiarly adapted for ship-building, bridges, etc., owing to its immunity from becoming worm-eaten. The teak forests are under the protection of government.

2. **Animals.**—In marked contrast to the rich botanical productions of India stands its rudimentary production of valuable animals and minerals.

Stock-farming in this over-populated country is restrained as well by the want of pasturage as by the warm climate and religious beliefs of the Hindoos, which both alike forbid a large consumption of meat. *Buffaloes, Zebus, Elephants*, and in some places *Camels*, are used as beasts of burden and for draught purposes. Throughout the greater part of India cattle are the only animals used for ploughing. Horses are almost entirely used for military purposes. There is an important export of hides and skins both raw and dressed or tanned.

Sheep and Goats are commonly reared, especially in the wilder parts of the country, for the sake of their wool; but the breeds are not satisfactory either as furnishing butcher-meat or wool.

The *Silk-worm* is reared, and a certain quantity of raw silk is annually exported, but this is usually counterbalanced by a greater import of raw silk, the value of the latter being about £1,000,000. Part of the silk is "wild silk," collected in the jungles.

Shell-lac, obtained from the lac insect, and *Pearls* from Coromandel are also valuable resources.

Cowry-shells, picked up on the Laccadive and Maldive Islands, circulate as money in the Indian Archipelago and in Africa.

3. The **Mineral wealth** of India has as yet scarcely been examined; but there is little doubt that the country is in this respect also exceedingly richly endowed. Hardly a single metal seems to be awanting. The excavation of *Coal* is carried on on an increasingly important scale. About 1,600,000 tons are annually raised in Bengal for the Indian railways. Metals are not worked to any great extent; but the yield of *Salt* is very large. The salt-tax yields a revenue of about £7,000,000. *Diamonds* of rare brilliancy used to be found at Golconda. *Gold* is now obtained in some quantity.

MANUFACTURES.

Ever since the invasion of the Indian plains by the Hindoos, 3000 years ago, the same civilization, the same customs, and the same methods of agriculture and manufacture have prevailed. A high level of perfection was attained sooner than in Europe, but that once reached, everything thenceforward retained (as in China) its stereotyped form.

This uniformity was maintained until the Europeans discovered the passage round the Cape and settled in India, so that European goods began to compete with the native manufactures. The greater advances the manufacturing industries made in Europe, the more dangerous they became to the Indian industries; and this danger became greatest when England secured the possession of India.

The at one time eagerly-purchased and highly-prized native *Textile Fabrics* cannot compete with the produce of the English looms, so that the greater part even of the native demand is now supplied from Manchester.

The same fate has befallen the once-famous *Wootz Steel*, which has been superseded by cheaper English wares.

Indian *Swords*, etc., made to suit the Oriental taste, are still in good demand.

The costly ivory articles and other ornaments are to a great extent of special value only to Indians; and large quantities are produced in Madras, Surat, and Mooltan.

Indian *Shawls* are still a highly important article of commerce. The best come from Cashmere, but Amritsar has recently carried on a successful rivalry with that ancient and famous state. Fine goats' hair (Peshur), obtained from Central Asia, is used for the manufacture of these shawls, which are embellished with colours (64 different hues and shades) and patterns of unparalleled beauty. From 15 to 20 weeks are required for the production of a single shawl; some of the most costly specimens require even years. In Cashmere itself fine shawls command a price of £600 to £1000.

The dazzlingly-brilliant *Handkerchiefs*, and other fine fabrics, like the embroidered China cloth made of the fibres of nettles, also deserve mention.

But while the native Indian handicrafts were giving way before the English machine-made manufactures, the English were erecting factories on the European model in India itself, partly to utilize the raw material directly in the place of production, and partly to take advantage of the cheapness of labour. Thus extensive *Cotton Factories* have arisen, especially in Bombay; as well as a number of *jute factories* (chiefly in Calcutta), which compete with those of Dundee; Bombay, Calcutta, and Madras contain *Sugar-refineries;* and Lucknow has manufactories of *Leather* and *Weapons.*

Oil-mills, rice-mills, saw-mills, paper-mills, flour-mills, etc., have been erected; and factories for indigo and shell-lac, and distilleries of arrack are scattered over the entire country.

A number of *breweries* have been started, the produce of which is chiefly taken by the European soldiers.

TRADE AND COMMERCE.

From the year 1600 to 1858 the celebrated East India Company was lord of the English possessions in Hindostan, which, at one time at least, it exploited with but little regard for the natives. In consequence, however, of the Indian Mutiny in 1857 the British East Indian possessions were placed directly under the crown, so that a complete revolution in the affairs of India took place.

Both Hindostan and Farther India are now under the control of the governor-general, whose seat is at Calcutta, and subordinate to whom are the lieutenant-governors and chief commissioners of the different provinces. In London there is a special government department for India, under the Secretary of State for India, who is assisted by a council of 15 members.

The Standing Indian army, by which this gigantic empire of more than 1,000,000 square miles is kept in check, consists of 70,000 British soldiers, and about 150,000 native troops (Sepoys). There is also a police service, organized on a military system, and partly officered by Englishmen. These forces are divided into three armies, corresponding to the original division (before 1858) of the British possessions into three presidencies.

The commander-in-chief is also the acting commander of the Bengal army.

India must be regarded not as a single country or nation, but as an aggregate of different communities or nationalities with little or no common feelings, interests, or aims, and widely divided by differences in language and religious belief. The natives are not yet intrusted with any measure of self-government, even now that the country is directly under the crown, and although the government has done much for the intellectual and material interests of the Hindoos.[1] The English owe a great degree of their success in ruling India to the ability of their civil and other government officials.

India is of great importance to England as a source whence raw material can be cheaply obtained, as a large market for English manufactures, and as an important centre for the trade with China, Japan, and Persia. But Britain has no monopoly of trade, since its free-trade system has allowed numerous Germans, French, Americans, and Chinese also to establish themselves as traders in India, so that with the consequent competition the "good old times of the nabobs" has departed.

Domestic Trade.—The four great rivers of India—Ganges, Brahmapootra, Indus, and Irrawaddy—form important highways of internal trade.

The Hooghli is, properly speaking, the only one of the innumerable branches of the Ganges-delta that is navigable for sea-going ships, which go up as far as Calcutta. River-steamers ascend the Ganges thence to Patna, Benares, and beyond Allahabad. Steamers also ply on the Brahmapootra, and the Irrawaddy is an important trade-route in Burma.

The traffic on the winding and sandy Indus is not so great as on the Ganges; but numerous tug-steamers ply from Kotri to Mooltan, on the Chenab, in 16 days. The dangerous delta of the Indus is avoided by means of a railway, which brings the goods from Kurrachee at the mouth of the river to Kotri.

The first Indian railway was begun in 1853; on Dec. 31, 1891, about 17,200 miles of railway were in use, and 2800 under construction. The chief lines are those from Calcutta to Allahabad and Bombay; from Allahabad to Lahore and Peshawur (near the passes to Cabul); from Lahore to Mooltan and Kurrachee; from Bombay to Madras; and from Madras to Calicut. These railways are of as great strategical as commercial importance. The cost of construction amounted to £200,000,000, on which interest at the rate of 5–6°/₀ is obtained. The income of the railways is £18,700,000; the expenditure, £8,900,000.

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[1] The question, however, of admitting natives to a larger and more direct share in the government is considered by some authorities to lie in the immediate future.—Tr.

Contrary to expectations the natives make great use of these railways, and are also well adapted for the railway service. In 1891 about 117,500,000 passengers and 25,700,000 tons of goods were transported by Indian railways.

The condition of many of the *Roads* in India is excellent, and much has been done under British administration both in making roads and macadamizing them, and in building bridges. The best roads are generally between the larger towns, as from Calcutta to Delhi and to Bombay, from Bombay to Agra, etc. The worst trade routes cross the Himalayas to China and Tibet. A considerable traffic is also carried on by canals, which, however, are generally of more value for irrigation.

In the districts which are destitute of railways and other means of conveyance, elephants, camels, and clumsy waggons drawn by zebus are the only means of transport.

Local trade, which has much increased in recent times, is chiefly in the hands of natives of India, and most of these belong to certain trading castes.

Telegraph-lines (35,000 miles) connect the principal towns in the interior. Submarine *Cables* unite India with Ceylon, Europe, Farther India, Australia, and China.

The *Post-office* forwarded in 1890 312,000,000 letters, newspapers, etc.

The chief *Trading Centres* in the interior are:—

Patna (opium), *Benares* (pearls, precious stones, cotton, and silk), *Allahabad* (cotton). *Delhi* is a universal emporium for the products of Indian industry, and the retail traders replenish their stocks here.

Hyderabad (weapons); *Mirzapore* (cotton). *Hardvar* is the scene of a fair in April, accompanied by a religious festival, which attracts hundreds of thousands of Hindoos. This is the chief market for live stock of all kinds.

The shawl-trade centres in *Amritsar.*

Bidar produces the well-known Bidari goods (caskets, jewel-cases, etc.).

Nagpore is the leading commercial town in the prosperous Central Provinces.

Foreign Trade.—The foreign trade of India far exceeds the domestic trade in importance. While the latter is, as we have said, carried on by natives and Parsees, the former is still chiefly in the hands of the English.

Nearly the whole of the foreign trade centres in the four great seaports: *Bombay, Calcutta, Madras,* and *Kurrachee.*

Bombay, since the opening of the Suez Canal and the construction of the Indian railways, has distanced all the other Asiatic towns in the competition for European trade. It is now not only the leading commercial town, but also the leading manufacturing town (41 cotton factories, etc.) in British India. It is situated on an elongated, unhealthy island, and possesses a magnificent harbour. The chief articles of commerce here are cotton (£8,000,000) and opium (£5,000,000); next to these rank seeds (£2,000,000), grain, wool, hides, coffee, spices, etc. The total value of the imports of Bombay is about £26,000,000; of the exports, £25,000,000. The Chinese trade of Bombay is considerable.

Calcutta, situated on the Hooghli, or mouth of the Ganges, 88 miles from the sea, is the capital of India, the second commercial town in Asia, the seat of government and of the largest financial institutions, and the centre of the telegraph and railway systems. The town is not only difficult of access (high pilot dues in the Hooghli), but it is also exceedingly unhealthy, a perfect plague spot. The cotton, and still more the jute manufactures of Calcutta, are very important. The chief *Imports* are cotton fabrics (£10,000,000), other fabrics, alcoholic liquors, fancy articles, etc. The chief *Exports* are opium (£5,000,000), rice, jute, tea, indigo, jute fabrics, wheat, etc. Opium and European goods are exported to China, which sends in return tea, silk, and porcelain. All the products of India are represented in the markets of Calcutta, where they are exchanged for the manufactures of Europe, or sold for hard cash; Calcutta thus forms for India and Eastern Asia the outlet for the precious metals. The annual value of the imports averages about £20,000,000; exceeded by that of the exports, which averages £32,000,000. The chief banks of East India have their headquarters in Bombay and Calcutta.

Madras, at one time notorious for its dangerous roadstead, often scourged by tempests, has greatly improved its harbour by means of immense moles. Its extensive commerce deals largely in the produce of Indian soil, especially teak, indigo, cereals, sugar, etc.

Kurrachee, near the delta of the Indus, is yearly growing in importance. It acts as the port for part of the commerce of the Western Himalayas, carries on trade with the countries on the Persian and Arabian gulfs, as far as the east coast of Africa, and maintains regular communication with the harbours on the Persian Gulf.

The following towns also deserve mention: *Surat*, *Mangalore*, *Calicut* (in a veritable land of pepper), *Beypore*, and *Cochin*, on the west coast; and *Masulipatam*, and *Coringa*, on the Coromandel coast.

The *Overland Foreign Trade*, small in comparison with the maritime trade, consists in the export of the products of the Indian soil, and of native and foreign manufactures. The Indus basin maintains commercial relations chiefly with Afghanistan and Beluchistan; Peshawur and Ghazi-khan are the chief depôts for goods destined to cross the passes of the Suleiman Mountains; and the great fair of Palampore is annually visited by crowds of merchants from Persia and Turkistan. But at all seasons of the year caravans ascend the valley of the Indus to Leh, the capital of Ladakh, whence their lading is carried by zebus or sheep over the passes of the Karakorum Mountains (11,500 to 19,500 ft.) to Lhassa in Tibet or Yarcand in Eastern Turkistan.

The leading commercial ports in *British Burma* are *Mandalay*, *Rangoon*, and *Akyab*, all carrying on trade with Europe, China, and Australia. Rangoon and Akyab export rice, teak, sugar, cotton, cashoo, etc. The navigation of the Irrawaddy has lately been receiving considerable attention; a regular service of steamers to Bhamo has been established, and efforts are made to attract the trade of south-western China in that direction.

EXPORTS AND IMPORTS.

The chief *Exports* of India as a whole are:—Cotton (the most valuable), jute, wheat, rice, opium, tea, coffee, sugar, indigo, hides and skins, oil-seeds, cotton fabrics and yarn, wool and woollen fabrics, silk and silk goods, and lac. The total value of the exports in 1892 was about £84,000,000.

The chief *Imports* are:—Cotton fabrics (£20,000,000), woollen fabrics, silk and silk fabrics, clothing, metal goods, railway plant, machinery, iron, copper, gold, silver, glass, sugar, salt, beer and spirits, provisions, petroleum, and coal. The total value of the imports is about £56,000,000.

The import of the precious metals in 1886 was £15,500,000; the exports, £1,100,000.

British merchants ship not only English goods, but also the products of Germany, Switzerland, and other foreign countries, to India; while the French, Germans, Italians, Austrians, Dutch, Norwegians, Chinese, Malays, and Americans, all maintain regular communication by sea with that country.

The *Shipping* visiting India has quadrupled within the last 30 years; in 1892 upwards of 10,000 vessels entered and cleared, with an aggregate burden of 7,680,000 tons (over 6,000,000 British). The principal steamer-lines plying to British India are: the Peninsular and Oriental Co. (Calcutta, Madras, Bombay); the British India Steam Navigation Co. (London to Kurrachee, &c.); the Anchor Line, the Wilson Line, and other lines; the Austria-Hungarian Lloyd (Bombay, Calcutta); the Navigazione Generale (Genoa and Bombay); the Messageries Maritimes (Marseilles, Bombay, Madras, and Calcutta). The British India Steam Navigation Co. maintains communication among all the Indian ports of any size, and between India and Persia, and the east coast of Africa.

3. CEYLON.

The island of Ceylon, which has an area of 25,000 square miles, and a population of 3,000,000, including about 20,000 whites, is justly called the "garden of India," for it is one of the most richly endowed of all the British possessions.

The chief productions of this tropical island are tea (68,000,000 lbs. in 1891, yearly increasing in amount), coffee (yearly decreasing), cinnamon (retrograding), cocoa-nuts, cocoa-nut oil, and other cocoa-nut products, areca-nut, quinine, graphite, precious stones, wood, and pearls.

The capital of Ceylon is *Colombo*, the harbour of which has recently been protected by massive breakwaters. Colombo, sometimes called the "letter-box for Eastern Asia," is now one of the most important telegraphic, coaling, and steamer stations in Indian waters, having superseded Galle in that respect. Ceylon has a governor, an executive council, and a legislative council of its own, being quite distinct from India.

The imports amount annually to a value of over £4,000,000; the exports to upwards of £3,000,000, of which about a half represents tea.

4. THE STRAITS SETTLEMENTS.

These settlements, which are of great commercial value, are situated on the much-frequented Straits of Malacca, at various points on the Malay Peninsula, which stretches into the Malay Archipelago. They are named as follows:—

1. **Penang**, or *Prince of Wales Island*, with the province of *Wellesley*, on the mainland, has a population of about 233,000. The capital of the island is *Georgetown*. The trade of this settlement is yearly increasing in importance. Besides exporting its own produce, Penang acts as the emporium for the produce of the neighbouring coasts and islands. Rice, sugar (Wellesley), nutmegs, gambier (used in tanning and dyeing), pepper, and tin are exported in return for European manufactures.

2. **Malacca**, a town and district. Once the commercial metropolis of the settlements, Malacca has almost ntirely lost

its independent trade. The chief products of Malacca are rice and tapioca.

3. **Singapore,** a small island with about 184,000 inhabitants, possesses an excellent harbour on one of the most-frequented channels, so that it has become one of the leading mercantile centres in Asia, and has probably the greatest transit trade in that continent. The population mostly consists of Chinese, Malays, and Indians, with 2800 Europeans.

Singapore is a free port, and is touched at by the steamers of all the great lines. Of the 4000 ships (over 3,000,000 tons) which visit it yearly 75°/₀ are British. Over 50 lines of sea-going vessels touch at Singapore, regular communication being maintained between this port and Europe, India, China, Japan, Mauritius, Saigon, Bangkok, Hongkong, the ports of the Malay Archipelago, etc.

Singapore resembles Malta in being the focus of an extensive submarine telegraph system. The lines from Madras, Hongkong, and Australia (*viâ* Java) unite here.

England monopolizes about 60°/₀ or 70°/₀ of the direct *Import* trade to Singapore, though German, Swiss, and Italian goods are largely introduced in English ships. Holland, France, and Germany have only about 10°/₀ of the direct trade.

The chief *Imports* are textile fabrics, metal goods, tin, opium, rice, tea, pepper, sago, etc. Singapore acts as the market for supplying the wants of a great part of Eastern Asia. On the other hand, a large proportion of the productions of China, Siam, and the Dutch Indies are transmitted *viâ* Singapore.

The *Exports* consist of the Eastern productions collected here from all sides (tin, pepper, nutmegs, sago, rice, gambier, rattans, hides, gums, sugar, coffee, etc.) to be distributed to England, the Continent, North America, and Eastern Asia.

The total *Imports* into the Straits Settlements in 1891 were valued at £27,000,000; the *Exports* at £25,000,000. Of this total of £52,000,000 upwards of £38,000,000 passed through Singapore.

Several protected states in the Malay Peninsula yield tin and other products which enter into the trade of Singapore.

5. LABUAN.

Labuan is an island, 30 square miles in area, with a population of 6000, lying off the north-west coast of Borneo. It possesses a good harbour (Victoria Bay), and yields sago, gutta-percha, wax, etc., besides some coal.

6. NORTH BORNEO.

Since 1881 the British North Borneo Company has been in formal possession of a portion (31,000 sq. m.; 175,000 inhab.) of the north of Borneo, commercially important from the fact that it contains the best harbours in the island. In 1888 the British government declared a protectorate over this region, and over Brunei and Sarawak, a total area of about 70,000 square miles, with about 500,000 inhabitants. The chief productions are timber, sago, rice, pepper, gutta-percha, etc.

7. HONGKONG.

Hongkong is an island, 30 square miles in area, on the south coast of China (which ceded it to Britain in 1841), opposite the mouth of the Canton River. It contains 221,000 inhabitants, of whom about 8500 are whites. The population is almost entirely concentrated in the fine city Victoria. Hongkong forms the key of the British power in the China Sea, and is now so strongly fortified as to be called the "Eastern Gibraltar." The peninsula of Kow-loon, on the adjoining mainland, also belongs to England.

Hongkong, like Singapore, is an emporium for the neighbouring lands, maintaining regular communication with India, Europe, Australia, and America, and carrying on an extensive trade with both neighbouring and distant ports. Excluding coasting-vessels, it was entered in 1891 by shipping of an aggregate burden of over 5,000,000 tons. This immense traffic is almost exclusively in the hands of the English and Chinese; but German ships also have a small share of it. The steamers of all the great Eastern Asiatic lines touch at Hongkong; 82°/$_0$ of these hoist the British flag.

Hongkong is the port through which all Southern China imports goods from across the sea; but besides being an emporium of trade, this island is also an important financial centre. It is one of the leading export towns for the produce of China (tea, silk, manufactures). Among its chief imports are cotton goods, opium, sugar, flour, salt, etc. The total exports are estimated at £25,000,000.

Telegraph lines to China and Japan pass through Hongkong.

8. ADEN.

The British possessions at Aden have an area of 70 square miles, and a population of 35,000. Aden is a highly-important point. Its possession ensures the mastery of the Red Sea, since, with the small island of *Perim*, it commands the Straits of Bab-el-Mandeb, or "gates of death;" it is in the second place a chief centre of the trade with Eastern Africa, and it is also an important coffee market, and a coaling-station for steamers to and from India. Coffee, india-rubber, incense, and balm are exported. The total annual value of its trade is about £1,500,000.[1]

III.—AFRICAN POSSESSIONS.

1. BRITISH SOUTH AFRICA.

The chief British possessions in Africa are the *South African Colonies*, immediately to the N. and N.W. of the *Cape of Good Hope*, the principal of which are *Cape Colony* and *Natal*.

These (excluding protectorates) have an area of 242,000 square miles, and a population of 2,000,000, of whom 423,000 are white people of English, Dutch, German, and French descent. The remainder are Asiatics, or native Hottentots, Kaffres, and Bushmen.

Most of those coloured aborigines, some of which are nomadic while others live by agriculture, are still on a very low level of civilization; and the efforts made to introduce European civilization and Christianity have hitherto met with little success. The coloured inhabitants far outnumber the whites, in the colony of Natal by more than tenfold.

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[1] The *Keeling Islands* (8 sq. m.; 400 inhab.), and the *Kuria-Muria Islands* (21 sq. m.; 34 inhab.) conclude the list of British possessions in Asia.—TR.

The manners and customs of the white inhabitants are now almost entirely English.

The British territory is bounded on the north by the Orange River and the Tugela, on the west and south by the Atlantic, and on the east by the Indian Ocean; but British influence is steadily spreading farther and farther to the north, so that no absolutely definite border-line can be given. The low-lying coast-plains are bounded by two abrupt mountain-ranges, beyond which is the South African plateau. The terraced district between these ranges, known as the *Karoo*, is barren, destitute of trees, and scantily watered, but during the rainy season it becomes covered with luxuriant grass, and then affords pasturage for enormous herds and flocks of domestic animals.

The leading characteristic in the climate of these colonies is the absence of rain, caused by the lofty boundary mountains. Even the main stream of the country, the Orange River, dries up in summer. Rain falls generally only in winter, *i.e.* from April to August; frost is rare. This warm and dry climate is by no means unsuited for Europeans; nor in Natal and the eastern coast districts, where rain is more abundant, are there many localities that can be called unhealthy.

COLONIES, PROTECTORATES, AND CHIEF TOWNS.

1. **Cape Colony** (221,600 sq. m.; 1,527,000 inhab.) is divided into eight electoral provinces:—

(1) *Western.—Cape Town* (84,000 inhab.) is the capital and seat of the governor. *Simonstown* has a safe harbour on Simon's Bay.

(2) *North-Western*, embracing *Namaqualand* and *Calvinia. Port Nolloth* is connected with *Springbokfontein* by rail.

(3) *South-Western.—Port Beaufort; South Aliwal.*

(4) *Midland*, a large central district including the Great Karoo, and extending to the Orange River.—*Graaff Reinet.*

(5) *South-Eastern.*—*Port Elizabeth* (23,000 inhab.); *Grahamstown* (10,000 inhab.).

(6) *North-Eastern.*—*Cradock; Middelburg.*

(7) *Eastern.*—*King William's Town* (7000 inhab.) was the capital of British Kaffraria, incorporated with Cape Colony in 1865.—*East London* (7000). With this province are associated the Transkei Territories, Tembuland, and Griqualand East.

(8) *Griqualand West*, the only province north of the Orange River.—*Kimberley* (28,000 inhab.).

2. **Basutoland** (12,000 sq. m.; 219,000 inhab.).—*Maseru.* Basutoland, formerly under the Cape Colony, is now directly under the British crown.

3. **Pondoland** (200,000 inhab.), a British protectorate, was the last remnant of Independent Kaffraria taken over in 1884.

4. **Natal** (20,000 sq. m.; 544,000 inhab.).—*Pietermaritzburg* (17,500 inhab.); *Durban* (25,000 inhab.). The colony is divided into nine districts.

5. **British Bechuanaland**[1] (71,000 sq. m.; 60,000 inhab.) was constituted a colony in September, 1885.

6. **Walfisch Bay,** on the coast of Great Namaqualand, with an area of 430 square miles, is governed by the Cape Colony.

NATURAL PRODUCTIONS.

1. **Agriculture.**—The prevailing excessive dryness over great part of the Cape Colony renders agriculture impossible except at scattered spots; while the greater part of the remaining area is used for pasturage. At the same time it must be noted that thousands of square miles might be reclaimed for agriculture by means of irrigation, for the soil of the Karoo is in general exceedingly fertile. As matters are at present, however, Cape Colony does not produce enough cereals for its own consumption, but has to import large quantities of grain and flour.

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[1] The British *Protectorate of Bechuanaland and the Kalahari Desert,* including *Stellaland,* extends northwards to the 22nd parallel of S. lat., and westwards to the 20th meridian of E. lon., an immense tract of about 162,000 square miles.—TR.

The Cape wines, formerly highly esteemed, are now in less demand. Natal is much better suited for agriculture, and among its crops sugar is important.

2. **Live Stock.**—The chief riches of the South African farmers consist in their herds. With the exception of Australia and South America, no other country shows so large a proportion of live stock in comparison with the population as Cape Colony. The leading branch in this industry is sheep-breeding. The colonies contain about 18,000,000 head of sheep, and export wool to an annual value of about £3,000,000. Owing, however, to deficient care in managing and breeding the sheep, the wool is not of high quality. The sheep-farms are often of very great extent. Cape Colony contains over 2,000,000 *Horned Cattle* (Natal about 700,000), 445,000 *Horses* (Natal 62,000), 7,000,000 *Angora* and other *Goats.* Ostrich-farming (200,000 ostriches) was formerly a very flourishing and remunerative industry, but has much declined in importance of recent years. In 1891 the export of ostrich feathers from the Cape was valued at about £468,000. The wild animals, such as lions, elephants, rhinoceroses, and antelopes, have been driven into the interior of Africa, so that hunters no longer obtain the same sport as formerly.

3. **Minerals.**—The mining industry of the South African Colonies is still in its infancy, and its development hitherto has been much retarded by the difficulties of communication and the dearness of labour.

Among the chief minerals are *Copper* (export of ore in 1890, 32,674 tons), found throughout Namaqualand; and *Coal,* large deposits of which occur in the Stormberg Mountains in Cape Colony and at various points in Natal. In the latter colony coal-mining is now becoming an industry of some importance.

But of all the minerals found in this part of Africa *Diamonds* have proved the most valuable. *Diamonds*[1] were first discovered in Cape Colony in 1866; and not long after numbers of diggers migrated to the diamond fields. These are situated to the north of the Orange River, in West Griqualand, extending also into the territory of the Orange Free State. The large town of Kimberley is entirely a creation of the diamond fields. Gold has also been found in the colonies since 1877.[1]

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[1] The Cape diamonds are often yellowish in hue, and therefore less valuable than the purer stones, but the discoveries at the Cape have reduced the general value of all diamonds about one-third. In 1884 a pure white stone was found, weighing 475 carats, believed to be the largest diamond in the world.

MANUFACTURES AND TRADE.

Manufactures.—Manufactures proper are almost exclusively confined to the longest-settled parts of Cape Colony, where all the European crafts are represented. In Natal the only manufactures of any importance are those connected with sugar and with corn-grinding. The natives, especially the Bechuanas, carry on a few handicrafts, but of quite an inferior order, *e.g.* the manufacture of woven and plaited goods from vegetable fibres, and of coarse hair-mats, etc. Flour-mills, breweries, and distilleries are numerous.

Trade and Commerce.—Cape Colony, founded by the Dutch in 1652, was taken by the British in 1806, during the Napoleonic wars, and its boundary has since then been steadily pushed farther and farther to the north. The Dutch Boers, who were unwilling to submit to British rule, emigrated in large numbers, and founded an independent state first in Natal, but afterwards, when they were molested there too by the English, in the *Orange Free State* and the *Transvaal Republic.*

The importance of Cape Colony (and of Cape Town) is based on its position as a natural station for vessels bound for India, and as strategically the strongest point on the sea-route to that country. The opening of the Suez Canal, which diverted the Indian traffic to a new sea-route, dealt a very heavy blow at the importance of this colony, and its decline would have been much more rapid had it not been for the discovery of the diamond fields.

Cape Colony, like all the more important colonies of the British, except India, possesses a developed system of self-government, with a budget of its own. The legislature consists of an Upper House or Legislative Council, with 22 members, and a Lower House, or House of Assembly, with 76 members, elected every five years. The head of the executive is the governor, appointed by the crown. The governor of Natal is also appointed by the crown; he is assisted by an Executive Council and a Legislative Council of 30 members, two-thirds of whom are elected, the rest nominated by the governor.

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[1] The gold exported from Natal is obtained from spots outside that colony.

The *Inland Trade* extends far into the interior of Africa; for all the neighbouring states, whether peopled by natives or by Boers, are commercially dependent upon the British. They must bring their produce to the British if they desire to realize their value; and they receive in return through the same channel the European manufactures they require. The retail traders are to a great extent Dutch Jews, who go from house to house, and in the north, so-called Portuguese, who are in reality Portuguese half-breeds.

This languid trade in the thinly-populated country is carried on by means of wretched and bridgeless roads, along which the ponderous tilt-waggons are slowly drawn by teams of from 10 to 18 bullocks; and it may be readily conceived that the price of European goods is enormously enhanced by the primitive state of the means of communication. There are about 2650 (400 in Natal) miles of railway open, leading from Cape Town, Port Elizabeth, East London, and Durban (Port Natal) into the interior. One line runs from Cape Town to Kimberley (647 m.) in the diamond fields and on into Bechuanaland. Another, connected with lines starting from Port Elizabeth and East London, runs through the Orange Free State and on to Johannesburg and Pretoria in the Transvaal. The completion of the railway from Delagoa Bay to Pretoria, when it takes place, is expected to produce very important results, the distance to the sea being so much shorter by this route.

The much more important *Foreign Trade* of these colonies has its principal centres in the seaports of Cape Town, Port Elizabeth, and Durban, which serve as the gateways for almost the entire commerce of the interior as far north as the Zambesi. Port Elizabeth has considerably distanced its older rival, owing to its more favourable situation. Durban, on Port Natal, is fast growing in importance.

The best-known lines of steamers by which communication with England is maintained are those of the Union Steamship Co. and Donald Currie & Co., these fine steamers performing the voyage in 16 to 20 days. The shipping trade of South Africa has made a considerable advance in recent years. In 1891 the total tonnage that entered at ports in the Cape Colony amounted to 4,000,000 tons, about 1,500,000 tons being from foreign parts.

Cape Colony has been united with England since 1879 by an *Electric Cable,* passing *viâ* Zanzibar and Aden. Trade and commerce are here assisted by several large banks, as, *e.g.* the Bank of Africa, the Standard Bank of South Africa, and the Cape of Good Hope Bank.

Imports and Exports.—The annual value of the *Imports* of Cape Colony is about £7,000,000 to £9,000,000; of the *Exports,* £9,000,000 to £11,000,000. Natal imports to the value of about £3,600,000, and exports to the value of about £1,200,000.

Among the animal exports from Cape Colony are included wool (£2,200,000), ostrich feathers (£500,000), Angora hair (£350,000), and hides and skins (£450,000). Other exports are copper ore (from £250,000 to £850,000) and diamonds, the last the most valuable of all. The chief exports from Natal are wool (£700,000), sugar (£114,000), gold (£218,000), hides, and Angora hair.

The chief imports are metal goods, apparel and textiles, leather, weapons, machinery, farm implements, coffee, tea, tobacco and cigars, bread-stuffs, &c.

The principal places with which Cape Colony and Natal carry on trade are England, other British colonies, the Indian Archipelago, China, America, Holland, and the interior of Africa.

Every nation is permitted to carry on trade with these colonies, and the customs-dues are light.

2. MAURITIUS.

Mauritius, formerly named Ile de France, has an area of 700 square miles, and a population (1887) of 368,000. The Indian coolies, who work on the sugar-plantations, form the largest section of the inhabitants. Chinese also immigrate into this island. Speaking generally, the condition of Mauritius is fairly prosperous.

The chief product is *Sugar*, of which about 2,000,000 cwts. are annually raised and exported chiefly to Australia and England. Rum, in considerable quantities, cocoa-nut oil, drugs, vanilla, coffee, spices, and cotton are also produced.

The annual *Imports* amount in value to about £2,200,000; the *Exports* to £3,500,000, of which £3,000,000 represent sugar.

The shipping which visits this island is considerable in amount, as all vessels plying between India and Europe *viâ* the Cape of Good Hope touch here. The capital, *Port Louis*, has direct communication with Europe and Australia (Messageries Maritimes from Marseilles, *viâ* Aden) and with Natal. The Commercial Bank is situated in Port Louis. There are 92 miles of railway in the island, and a complete telegraph system.

3. THE SEYCHELLES.

The Seychelles are a group of about thirty fertile islets, with an aggregate area of 90 square miles, yielding tropical produce. The population is (1887) 15,500. The capital is *Victoria.* The neighbouring Amirante Isles are low uninhabitable coral reefs. The Seychelles, with the islands of Rodrigues and Diego Garcia, are under the administration of the governor of Mauritius.

4. SOCOTRA.

The island of Socotra, 150 miles off Cape Gardafui, with an area of 1400 square miles, and a population of 10,000, is of considerable strategic importance. It was formally annexed by Great Britain in November, 1886. Socotra produces aloes, dragon's-blood, and other tropical produce.

5. ST. HELENA.

St. Helena, with an area of 47 square miles and a population of 4000, is a lonely island lying in the South Atlantic, 1150 miles from the west coast of Africa. Previously to the opening of the Suez Canal, and before sailing vessels were so largely supplanted by steamers, St. Helena did a large trade with the ships that called; but now its prosperity has departed, though it still furnishes potatoes and other fresh vegetables to a certain number of passing vessels. It is the chief station of the American whalers in the South Atlantic. This volcanic, and originally barren island, has been rendered more productive by the exertions of the English. A small British garrison is still stationed here.

The capital is *Jamestown*, which possesses a harbour.

About 750 miles to the north-west of St. Helena is the island of *Ascension* (35 sq. m.; 360 inhab.). It is purely a coaling and victualling station and sanitarium for the ships of the British navy in this quarter.

Tristan d'Acunha is a rocky islet about 1200 miles to the south of St. Helena, with about 50 inhabitants.

6. BRITISH POSSESSIONS ON THE WEST COAST OF AFRICA.

The British possessions on the west coast of Africa are for the most part merely isolated trading settlements, and are situated at different points of the coast from the Gambia to the Niger delta. Together they embrace about 33,000 square miles, and have a population of about 2,200,000.

These possessions make up four colonies, each with its own government, their names being *Gambia*, at the mouth of the river Gambia; *Sierra Leone;* the *Gold Coast;* and *Lagos.* The chief town is *Freetown* in Sierra Leone, a military post and coaling station. *Lagos* has also an extensive trade.

The leading *Exports* are palm-oil, oil-seeds, ground-nuts, caoutchouc, ivory, and india-rubber. The chief *Imports* are cotton fabrics and other European manufactures, weapons, gunpowder, beads, and spirits. The total value of both imports and exports is about £4,000,000.[1]

IV.—COLONIES IN AUSTRALASIA AND POLYNESIA.

1. AUSTRALIA.

AREA AND POPULATION.

Australia lies in the southern hemisphere, between 10° and 40° s. lat.; it is bounded by the Indian Ocean and the Pacific Ocean, and has an area of 2,940,000 square miles. In 1892 it contained 3,000,000 inhabitants, most of whom were of European descent. The number of natives or aborigines is variously estimated, but they probably do not amount to more than 50,000. These aborigines are classed as Australian or Oceanic negroes; they have long lank hair, and awkwardly-formed, long, thin limbs; and they are distinguished among savages for their wildness and ferocity, so that the white emigrants have never in any way mingled with them. Although some accounts credit them with a certain amount of intelligence, they seem quite incapable of acquiring even a rudimentary civilization, and must therefore be regarded as doomed to extermination.

The nucleus, and by far the greatest bulk (90%) of the people, are the British, whose manners and customs, speech, manner of life, and trade usages are dominant. Frenchmen, Germans (2%), and Chinese are also represented.

In order to meet the competition of the Chinese most of the Australian colonies have imposed a tax upon Chinese entering the country, so that the number of these people in Australia has greatly decreased. At present there are only about 30,000

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[1] *Other British Territories.*—The Niger delta is now under British protection, and a large area, intersected by the Niger and Benue, belongs to the British sphere of influence here, being under the supremacy of the Royal Niger Company. British influence is also recognized as extending over other great stretches of territory in Africa. The Imperial British East Africa Company has acquired governing powers over a large tract in East Equatorial Africa, stretching from the coast to the Victoria Nyanza, and the whole of the British territory here covers an immense area. In the Zambesi and Nyassa region also immense tracts are now included in the British sphere of influence.—Tr.

Chinese in Australia. In 1891 the total population was increased by some 34,000 immigrants.

SITUATION AND NATURAL FEATURES.

Australia is connected with Asia by a great chain of islands, but it is separated by the broad ocean from all the other great continents; Europe, indeed, whence it derives most of its culture, forms its very antipodes.

In its compact mass and its regular coast-line Australia has more resemblance to Africa than to any other continent; but at the same time it possesses a number of fine harbours, especially in the south and south-east, while there is deep and easily navigable water off all its coasts except among the coral reefs on the north.

The general formation of the Australian continent is that of an extensive plateau, bounded on the east and south-east towards the sea by long chains of mountains, while on the west and north it descends in terraces to the sandy coast-plain. The mountains on the east and south-east, called at different parts the Liverpool Mountains, Blue Mountains, and Australian Alps, barely attain the height of 7200 ft. They are too low to collect masses of snow, but they are high enough to deprive the south-east trade-wind of its moisture, so that in consequence of the unfavourable position of the mountains most of the continent is compelled to suffer from a quite unparalleled scarcity of water and drought. In the whole immense continent there is but a solitary river, the *Murray*, that is navigable for any considerable distance, all the year round. Its tributary the *Darling*, which has a basin as large as that of the Elbe, generally dries up in summer; and South Australia, as large as Germany and France taken together, has not a single river which could drive a mill of any size all the year round. The *Swan River*, the chief stream in Western Australia is sometimes navigable.

Lakes and *Marshes*, of very great extent during the rainy season, are frequent in the interior.

These phenomena, which are nowhere else presented on such a large scale, are explained by the peculiar climate of Australia.

CLIMATE.

The tropic of Capricorn so divides Australia that two-fifths of the island lie within the torrid zone and the remainder in the warmer regions of the south temperate zone. The summers are sultry (104–133° F. are often recorded), and the winters are mild. The mercury seldom falls to freezing-point in the plains. Sydney has a mean temp. of 50° F. in July, and 70° F. in January; Melbourne has 50° F. and 66° F.; and Brisbane, 57° F. and 77° F. The characteristic peculiarity of the Australian climate does not, however, consist in the temperature, but in the distribution of the rainfall. Australia receives as much rain as Europe. On the north coast 86 inches fall per annum; at Sydney, 47 in.; and at Melbourne, 27·5 in.; while in the interior at least as much falls as in the interior of Russia. But these quantities are not distributed over the whole year; they fall in torrents after weeks or even months of drought. At Sydney upon one occasion 20 inches fell within 20 hours, while on the other hand not a drop of rain fell from October 1839 to March 1840. Wentworth, at the junction of the Darling and the Murray, was absolutely without rain for thirty months, from October 1876. As a matter of course these droughts are most deadly to all living creatures.[1]

The hot north wind, which brings with it clouds of fine dust, is much dreaded in the colonies; the south wind brings cold weather.

Except in the tropical regions in the north, the climate of Australia is well adapted for Europeans. The death-rate is 15–17 per 1000 inhab.; in England and Wales it is 21·4 per 1000. Old men of 80 or even 100 are not rare in the colonies.

DIVISIONS AND CHIEF TOWNS.

Australia contains at present five independent colonies, all of which have acquired separate parliaments and independent and responsible governments since 1855.[2] The parliament in each case consists of an Upper and Lower House, while the executive is vested in a governor, appointed by the crown, but assisted by a cabinet of responsible ministers. The agricultural interest is the most politically influential in all the colonies. All taxes raised in the colonies must by law remain there.

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[1] One million domestic animals perished in the great drought of 1868.

[2] Western Australia obtained responsible government only in 1890.

The following are the names of the separate colonies, with their chief towns:—

1. **New South Wales,** on the east coast, is the oldest colony, and has an area of 309,175 square miles, with a population (1891) of 1,132,234. *Sydney,* the capital, on Port Jackson, has 383,000 inhab.; *Newcastle, Liverpool, Bathurst.* *Norfolk Island* (750 inhab.) belongs to this colony.

2. **Victoria,** in the south-east of the continent, to the south of the Murray river, has an area of 87,880 square miles, and a population of 1,140,405. *Melbourne,* on the Yarra-Yarra, with 491,000 inhab., is the largest town in Australia. *Ballarat* (46,000 inhab.), *Sandhurst* (38,000), *Geelong, Castlemaine.*

3. **South Australia** has an area of 903,690 square miles, and a population of 320,000. *Adelaide* (133,000 inhab.), the capital, is the third town in Australia. There are more Germans in this colony than in any of the others. *Kangaroo Island* belongs to it.

The portion of Australia not previously included in any of the colonies, and lying between Queensland and Western Australia, was added to South Australia in 1863, but it has as yet few European colonists. It is known as the *Northern Territory* or *Alexandra Land.*

4. **Western Australia,** which includes all Australia west of S. Australia, has an area of 1,060,000 square miles, and 50,000 inhabitants. This is the poorest of the Australian colonies. The chief towns are *Perth* (9000 inhab.), on the Swan River, *Fremantle,* and *Albany* (on King George's Sound).

5. **Queensland,** reaching northward from New South Wales to the Gulf of Carpentaria, has an area of 668,500 square miles, and a population of 394,000. *Brisbane.* (50,000 inhab.) is the capital. *Maryborough, Ipswich, Rockhampton, Cooktown.*

NATURAL PRODUCTIONS.

1. **Vegetable Productions.**—From the remarks made on the climate and natural features of Australia, it is evident that agriculture and even superior pasturage can flourish only in scattered spots and districts where water is more abundant than elsewhere. In 1891, throughout the entire continent, 6,790,000 acres were under cultivation. The configuration of the Australian plains is of the most monotonous and desolate character. They are covered for the most part with tough and prickly plants, or with low and impenetrable "scrub." The chief trees are the eucalyptus (including the blue gum) and acacia, which sometimes reach the height of 300 ft.; and these never occur in thick woods, but always in scattered groups like the ornamental timber in a private park. The Australian grass also grows in scattered tufts among the other plants, and does not form a continuous carpet of green as in Europe. The grass-tree, the bottle-brush shrub, and the kangaroo-grass, sometimes growing as high as a man, are peculiar to Australia. The marsupial and monotreme animals which inhabit this peculiar flora have also become extinct in the other continents.[1]

There are no food-plants, in our sense of the term, indigenous to Australia, but on the other hand that country contains many kinds of valuable timber, *e.g.* eucalyptus, yacca, and cedar.

The European settlers have introduced nearly all the cultivated plants of Europe and many from the tropics; and most of these have accommodated themselves to their new home.

Besides cereals, vines, figs, dates, oranges, lemons, and the commoner fruits, Australia now produces sugar, tobacco, cotton, indigo, and even tea (in New South Wales).

The production of grain already exceeds the domestic demands of the thinly-populated land, so that farmers have a surplus for export (chiefly to England). The distance from their markets places the Australians at a disadvantage in competition with the American growers; but they have an advantage in the fact that the Australian harvest occurs in the European winter, *i.e.* at the period when the highest prices are obtained in Europe. The chief crop is wheat, of which about 4,000,000 quarters are annually produced.

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[1] The opossum family (*Didelphidæ*) of America are the only marsupials found beyond the limits of Australia and the adjacent islands. The Monotreme family, wholly peculiar to Australia, comprises but two genera: the ornithorhyncus and echidna.—TR.

As in North America the high price of labour renders the use of machinery in agriculture well-nigh universal.

Land in Australia is very cheap. Government makes every effort to prevent its acquisition by speculators instead of by working emigrants, whose labours in many places have transformed the wilderness into smiling harvest-fields.

2. **Animals.**—The importance of Australian farming centres in the breeding of *Live Stock*, for in this branch of the industry alone is a complete use of the advantages of the soil possible. The success which has attended the rearing of the domestic animals of Europe in Australia is quite unparalleled, and is calculated to raise serious apprehension of dangerous competition in the breasts of European stock-farmers.

By far the most important and striking branch of the Australian stock-rearing, and, indeed, of Australian farming in general, is the breeding of *Sheep*. This animal is peculiarly adapted for the poorly-watered continent; it flourishes on the scanty herbage where horses and cattle would perish, while it can subsist without water for days, and even for weeks, if it obtain green food. Australia contains about 105,000,000 sheep, and annually exports about 1,600,000 bales of wool, or nearly two-thirds of the whole quantity imported into Europe by sea. Sydney and Melbourne, the principal wool-markets of the world, regulate the prices of this commodity for every country. Owing to the increased production the price of wool has fallen so low as to make sheep-farming in Europe less and less profitable.

The sheep-farmers or "squatters" are the aristocracy of Australia; many of them own flocks of 200,000 to 500,000 sheep.

Cattle stand next to sheep in importance; there are about 10,500,000 in the continent.

Horses (1,500,000) and *Asses* are now found wild in many districts of Australia. Attempts have been made to introduce the camel and the alpaca.

Rabbits, and in a much less degree *Swine*, have become, in many parts of Australia, a veritable scourge, so that various means (*e.g.* phosphorus poisoning) have been adopted to exterminate or at least reduce them.

The *Fisheries* are productive; off the north coast trepangs are caught in large quantities and exported to China.

Pearls are found on the coast of Western Australia.

As was to be expected from such experienced cattle-breeders as the English, that nation has imported into Australia only the better kinds of cattle, while the constant aim of the stock-keeper is to improve the breed still farther, by cultivating suitable fodder, etc. Thus the cattle of Australia must on no account be judged of by the ordinary prairie cattle of other lands.

3. **Minerals.**—Until 1851 the mineral riches of Australia were unsuspected; now we know that this fifth division of the globe possesses almost all the known metals.

Gold has always been the most important mineral treasure of Australia; and it has been yielded in such quantities since its first discovery in 1851 that Australia is still the second gold-producing land of the world. Between 1851 and 1891 gold to the value of at least £296,000,000 has been obtained, sometimes in nuggets worth £5000 to £10,000. These marvellous discoveries of the precious metal have on the one hand rapidly increased the white population of Australia, and on the other hand have greatly added to the wealth of the land. At present the annual production of gold, which still employs many thousands of diggers, is fully £4,000,000. Victoria (about £2,000,000 per annum) and Queensland (about the same) are the chief gold-yielding colonies.

In addition to gold many other valuable minerals were discovered: as silver, iron (almost pure), tin, copper, antimony, salt, fine clay, and coal. Unfortunately, however, most of those treasures remain still unexploited, owing to the difficulties of communication in Australia. *Coal* is found in large quantities in New South Wales, where the coal-fields are estimated to extend to 25,000 square miles. The value of the annual yield far exceeds the value of the annual gold-harvest, which has fallen off in that colony. In 1891 over 4,000,000 tons of coal were raised, valued at £1,743,000. Queensland also contains large coal-fields, for the most part, however, unworked, though near Ipswich and in the Wide Bay district several mines are in operation. *Copper* is found in South Australia, New South Wales, and Queensland, but copper-mining has suffered severely from depression of trade.[1] In 1891 South Australia exported copper and copper ore to the value of £295,288 as against £563,000 in 1877. *Tin* is mined in New South Wales and Queensland. *Silver-mining* is of growing importance in New South Wales (silver and silver-lead ore in 1891 £3,619,000).

Precious stones—agate, diamonds, opals, etc.—are also found.

Although only a portion of Australia has been really explored, and a still smaller portion geologically and geognostically examined, we are still able to say with certainty that Australia is in a position to maintain for centuries a metallurgical industry as great as that of Great Britain.

MANUFACTURES.

The enormous wealth of raw material as well as the immense distance from Europe would be sufficient to impel an even less enterprising people than the Australians to the development of an active manufacturing industry. In no other colony is the creative power of the English so apparent as in Australia. There the greatest efforts are made by the people to emancipate themselves as much as possible from dependence on the manufactures of the mother-country by availing themselves of the raw material which nature offers with so lavish a hand.

In and around the cities of Melbourne, Sydney, and Adelaide excellently-organized, and sometimes gigantic factories abound for the manufacture of agricultural and other machinery, tallow, soap, candles, woollen fabrics, sugar, etc.; while tanneries, flour-mills, saw-mills, breweries, and distilleries are also numerous. Butcher-meat, the abundance of which renders it a drug in the home-market, is preserved and exported in tins to Europe. Over and above these industries, all the necessary handicrafts and trades of town-life—printing, etc.—are carried on. Sydney enjoys a well-deserved reputation for ship-building. But in spite of these facts there is hardly a manufacture of the first importance for their supply of which these colonies do not depend upon importation. For textile fabrics, glass, and metal goods Australia is still entirely dependent upon England.

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[1] It is now, however, recovering.—TR.

Attempts to found and encourage manufactures of these and similar articles under the protection of high duties, such as prevail in Victoria, have failed.

TRADE AND COMMERCE.

Australia, formerly called New Holland, was the last of the five main divisions of the globe to enter the field of history. Gradually explored by the Dutch in the course of the 17th century, it was still inhabited by the aborigines alone until 1788. At that date the English government established its first penal colonies in Australia, but it also sought to attract voluntary settlers by offering very advantageous terms. But the full tide of immigration did not really begin until after the gold discoveries of 1851. To-day Australia is the most important British colonial possession next to India; the United States of North America alone can show a parallel rapidity of development. Australia is now inhabited by a wealthy and enterprising people, whose energy and success is perhaps best proved by the fact that the foreign trade of the Australasian colonies (including Tasmania and New Zealand) shows an aggregate value of nearly £175,000,000.

Foreign Trade.—The foreign trade of Australia, which pays for its imports by raw material, has its principal seats in Sydney, Melbourne, and Adelaide. The shipping trade of the two former especially, which possess two of the finest harbours in the world, is very extensive. Melbourne, founded in 1835 and already one of the leading commercial cities of the globe, trades mainly with Europe and Africa; Sydney trades chiefly with America and Polynesia. Each of these commercial capitals is visited annually by 4000 to 5000 vessels of an aggregate burden of 1,500,000 tons.

There are three different sea-routes between Europe and Australia. The regular lines of steamers[1] generally sail *viâ* Suez, in 40 days, or *viâ* the Cape of Good Hope; while sailing ships on the homeward voyage to Europe frequently round Cape Horn in order to take advantage of the west winds. Eighteen European and thirteen Colonial steamship companies are represented in Melbourne; and both Sydney and Melbourne are visited by European mail steamers as well as by the American mail steamers which ply regularly between San Francisco and Melbourne, *viâ* Honolulu and New Zealand.

In 1891 15,250 ships, with a burden of 15,000,000 tons, entered and cleared at Australian ports.

Two *Submarine Cables*, from Port-Darwin *viâ* Java and Singapore, unite Australia with Europe, and in 1890 67,000 telegraphic messages were transmitted by their means.

The above-mentioned towns act as immense storehouses for the whole of the Australian continent, and are thus the centres of the domestic as well as of the foreign trade. As the Australian settlers have not as yet pushed very far into the interior, the domestic trade is mainly confined to the coast.

The **Internal Communications** of Australia have made immense strides within the short life of the colonies. Adelaide, Melbourne, and Sydney are the starting-points of railways, which are yearly spreading farther and farther. In 1891 Australia had nearly 10,000 miles of railways, of which the greatest portion was in New South Wales and Victoria. The chief railway is that uniting Sydney and Melbourne, with its branches to the principal mining and wool-producing districts. Railway connection between Sydney and Brisbane was completed in January 1888.

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[1] The chief are the P. and O. Co.; Orient Co.; British India Steam Nav. Co.; Messageries Maritimes; and N. German Lloyd (Hamburg).

Telegraph lines are very general between the principal places. The famous overland telegraph line was carried across the waterless interior with infinite difficulty to meet the submarine cable on the north coast. Australia has now 39,000 miles of telegraph-lines, with 1300 telegraph-offices, which transmit 6,600,000 messages per annum.

There are few tolerable roads in the country. Oxen are used as draught animals. The waterways, with the exception of the Murray River, are, as already mentioned, of little commercial value.

Sydney and Melbourne both possess an exchange, mercantile companies and insurance offices, besides numerous banks (Bank of Australia, Bank of New South Wales, Bank of New Zealand, etc.).

Exports and Imports.—The chief *Exports* from Australia are wool,[1] gold, silver ore, lead, copper ore, tin, grain, and flour (from South Australia and Victoria to other British colonies), cattle and sheep tallow, preserved meat, hides, leather, sugar (from Queensland), wine, and coals. The total value is (1891) £61,000,000, of which 50% is sent to England, 13% to other British colonies, and the remainder to the United States, France, the Hanse towns of Germany, Belgium, etc.

The leading *Imports* are textile fabrics (especially cotton and woollen goods), clothing, hardware and cutlery, machinery, articles of metal, including iron wrought and unwrought, and manufactures of all kinds from England; sugar (from Mauritius), tea (from China); coffee, tobacco, manufactured goods from North America; leather goods, furniture, and Parisian goods from France. England contributes one-half of the imports, other British colonies one-fourth, and North America, France, Germany, etc., the remainder. The total value is (1891) £63,000,000.

Many of the products of Polynesia (cocoa-nut oil, etc.) are sent to Europe *viâ* Sydney.

The duties levied by the different colonies vary in amount from 10, 15, to even 45°/₀ *ad valorem.* Victoria imposes the highest duties.

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[1] Australia and the neighbouring islands already produce more than one-half of the wool imported to Europe from abroad. Over 90 per cent of the Australian wool is imported directly to Britain, but much of it is again re-exported.

2. TASMANIA.

The island of Tasmania, divided from Australia by Bass's Straits, 120 miles wide, embraces with the adjoining smaller islands an area of 26,300 square miles, and contains (1887) an exclusively European population of about 142,000. The aboriginal inhabitants (Papuans)[1] have been exterminated in the course of long and bitter strife, and by sickness. Tasmania was discovered in 1642 by the Dutch navigator Tasman, who named it Van Diemen's Land. The English government established a penal settlement here also, but it was removed in 1853.

The island enjoys a very favourable climate (Hobart, 147° 19′ E. long., 42° 53′ S. lat.), is well-watered, and unusually fertile, with abundant timber. The chief products are wheat, oats, potatoes, fruit, tobacco, sheep (1,600,000), tin (3600 tons, £400,000), coal, iron, copper, and gold (£140,000). About 9,800,000 lbs. of wool are annually exported.

The chief town is *Hobart* (27,000 inhab.), on the Derwent. It is connected with Launceston (18,000 inhab.), the second town, by railway, and has tanneries, mills, breweries, and candle and soap factories.

Tasmania has about 425 miles of railways, and 2300 miles of telegraph lines.

It has regular communication with the Australian continent (submarine telegraph), and is visited annually by about 1400 ships, with an aggregate burden of 700,000 tons. The foreign trade includes *Exports* to the value of £1,450,000, and *Imports* to the value of £1,600,000.

3. NEW ZEALAND.

The colony of New Zealand consists of three islands: the North Island, the South (or Middle) Island, and the small

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[1] Some competent authorities describe the Tasmanians as Negrites, differing considerably from the Papuans, and finding their closest analogues in the natives of the distant Andaman Islands.—TR.

Stewart Island. The two first are separated by Cook Strait, from 20 to 80 miles wide; the last is divided from the South Island by Foveaux Strait, about 15 miles in width. Including a few groups of small islands (Chatham Islands, Auckland Islands) united politically with this colony, New Zealand has an area of 104,000 square miles, and a population (1891) of 668,000, of whom rather more than 41,000 are Maoris.[1]

The islands are mountainous; the loftiest peak is Mount Cook, in the South Island, which is 12,349 ft. high. In its climate New Zealand, like Tasmania, offers a direct contrast to the Australian continent. The lofty snow-clad mountains afford a rich supply of water to the broad valleys and plains, so that these two colonies are among the best and most healthy agricultural and pastoral possessions of Great Britain. The mean temperature of Auckland is 68° F. in Jan., and 50° F. in July. Considering the sparse population and the short period —less than 50 years—during which this colony has been under cultivation, its prosperity must fairly be described as astonishing.

As in Australia the leading branch of *Farming* in New Zealand is the breeding of *Live Stock* (sheep 18,000,000; horned cattle 850,000; horses 211,000). Agriculture, however, is steadily spreading, and produces *Wheat* (6,300,000 bushels), some of which is exported, *Oats* (12,000,000 bush.), and *New Zealand Flax* (*Phormium tenax*), which also grows wild. The commonest forest-trees are various kinds of *Pine* (Kauri pine yielding Kauri gum). *Gold* is found to an annual value of nearly £1,000,000; between 1857 and 1887 the total value exported from New Zealand was £43,600,000. *Coal* and *Petroleum* are also among the mineral resources of the colony.

Internal Communication is maintained by means of (1887) 1800 miles of railways, 4540 miles of telegraph lines (11,200 m. of wires; 412 stations; cable to Sydney), 1100 post-offices, and lines of coaches and coasting-steamers.

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[1] The Maoris are the handsomest and most intelligent race of savages known. They are very temperate, and it is illegal to sell spirits to them; but disease (consumption) has of late years wrought great havoc among them.

The principal harbours are *Auckland* (51,000 inhab.) and *Wellington* (33,000 inhab.), on the North Island; and *Dunedin* (46,000 inhab.) and *Lyttelton* (4000 inhab.), on the South Island. These ports are all used as stations for the southern whaling-fleet, and they are connected with England by direct lines of steamers. *Lyttelton* is seven miles from *Christchurch* (47,000 inhab.), of which it is the port.

In 1891 the shipping outwards and inwards for New Zealand included 1481 vessels, with an aggregate burden of 1,244,322 tons.

The chief *Imports* are manufactured articles, especially clothing and materials for it, iron and steel goods, machinery, agricultural implements, sugar, tea, wine, spirits, and beer. In 1891 the total value of the imports was £6,500,000.

The chief *Exports* are wool (£4,000,000), frozen meat (£1,200,000), gold, grain, New Zealand flax, Kauri gum, hides, tallow, timber, etc. The total annual value (1891) is £9,500,000.

The greater part of the external trade is carried on with Great Britain.

4. POSSESSIONS IN POLYNESIA.

The remaining smaller islands of *Polynesia*, belonging to Great Britain, have little commercial importance. The chief group is that of the *Fiji Islands*, occupied in 1874, an archipelago of about 225 islands and islets (100 inhabited), with an aggregate area estimated at 8000 square miles, and a population of nearly 130,000, of whom about 3500 are Europeans (many Germans). The two largest islands are named *Viti Levu* and *Vanua Levu*. The foreign trade, though still in its infancy, represents a turn-over of about £550,000. The chief *Exports* are sugar (20,470 tons in 1891), fruit, bananas, pine-apples, limes, and copra (£60,000). The chief *Imports* are manufactured articles, breadstuffs, coals, and provisions.

The island of *Rotumah* (14 sq. m.; 2500 inhab.) was added to the colony of Fiji in 1880.

British *New Guinea* (86,000 sq. m.; 135,000 inhab.), acquired in 1884, lies in the south-east of the island of that name. There is a missionary station at *Port Moresby*, but the resources of the country are quite undeveloped.[1] The annexation was formally declared and a government established in 1888.

V.—BRITISH POSSESSIONS IN AMERICA.

1. BRITISH NORTH AMERICA.

Under the term British North America is included the region to the north of the United States, bounded on the east by the Atlantic, on the west by the Pacific, and on the north by the Arctic Ocean and Alaska (formerly Russian America).

The area of this region is estimated at 3,500,000 square miles, and its population at only 4,830,000; figures which at once point to the uninhabited and inhospitable nature of the greater part of this territory.

The great majority of the inhabitants are white men, chiefly of English descent, though there are also about 1,400,000 French Canadians, and more than 100,000 Germans. The Indians, who are most numerous in the west and north, number from 100,000 to 130,000; half-breeds are tolerably numerous. In the extreme north the inhabitants are Esquimaux. The prevalent religion is Protestantism, with 2,800,000 adherents of various sects; while there are about 1,990,000 Roman Catholics. There is complete religious toleration, and education is carefully provided for.

DIVISIONS AND CHIEF TOWNS.

With the exception of Labrador and Newfoundland, the British possessions in North America are united to form the

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[1] By a convention between Great Britain and Germany, signed in April, 1886, the Western Pacific (between 15° N. and 30° S. lat., and between 160° W. and 130° E. long.) is divided by a conventional line, to the S., S.E., and E. of which the sphere of British influence is confined, while the sphere of German influence is limited to the N., N.W., and W. The Navigator Islands (Samoa), Friendly Islands (Tonga), and Niue (Savage Island) form, however, a neutral region under the convention. Both powers have made various annexations in their allotted spheres.—TR.

Dominion of Canada, which is divided into seven provinces and the North-west Territories. At the head of the executive in each of the seven provinces is a lieutenant-governor, subordinate to and appointed by the governor-general, who in his turn is appointed by the crown. The legislative power is vested in a parliament, consisting of a Senate of 80 life-members nominated by the governor-general, and a House of Commons with 215 members, elected for five years by the people. Acts passed by this parliament require to be ratified in England.[1] The seat of government and the residence of the governor-general is Ottawa. Each province possesses a small local legislature, intrusted with full power to regulate all local affairs. Taxes raised in Canada must not leave the colony. The British government maintains a garrison of 2000 men in Halifax, and provides, as in all colonies, for the coast defences; all other troops in Canada are either militia (commanded by a British officer) or volunteers.

The provinces and chief towns are as follows:—

1. **Quebec** (227,500 square miles; 1,488,000 inhab.).—*Quebec* (63,000 inhab.), *Montreal* (216,000 inhab.).

2. **Ontario** (219,650 sq. m.; 2,114,000 inhab.).—*Ottawa* (44,000 inhab.), *Toronto* (181,000 inhab.), *Hamilton* (49,000 inhab.) on Lake Ontario, *London* (32,000 inhab.).

3. **New Brunswick** (28,000 sq. m.; 321,000 inhab.).—*St. John* (39,000 inhab., including Portland), *Fredericton* (7000 inhab.).

4. **Nova Scotia** (21,000 sq. m.; 450,000 inhab.), a peninsula. —*Halifax* (38,000 inhab.). On *Cape Breton Island* is *Sydney.*

5. **Prince Edward's Island** (2100 sq. m.; 109,000 inhab.). —*Charlottetown* (11,000 inhab.).

6. **Manitoba** (64,000 sq. m.; pop. 152,000).—*Winnipeg* (25,000 inhab.).

7. **British Columbia,** on the Pacific Ocean, including *Vancouver Island* (382,000 sq. m.; pop. 97,000).—*Victoria,* on Vancouver Island (17,000 inhab.); *Vancouver* (14,000 inhab.).

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[1] The constitution resembles those of Australia and Cape Colony.

The **North-west Territories** and the Arctic islands have an area of 2,400,000 square miles, and a population of 100,000. In this region four districts have been organized: Assiniboia, Saskatchewan, Alberta, and Athabasca. Chief town *Calgary.*

The island of **Newfoundland,** with its dependency **Labrador,** on the adjoining mainland, is a crown-colony, under a governor, assisted by an Executive Council, a Legislative Council, and a House of Assembly, consisting of 33 elected members. Its area is 40,000 square miles, and its population 200,000. The capital is *St. John's,* on Newfoundland.

NATURAL FEATURES AND CLIMATE.

The western parts of Canada are mountainous, being occupied by the Rocky Mountains, and by ranges stretching along the coast from south to north. Those regions have not yet been thoroughly explored, but heights of 16,700 ft. (Mount Hooker) have been measured. The centre and east of the Dominion are level, with numerous lakes and moors. The spurs of the Alleghany Mountains form a hilly district in the south-east.

The country is unusually well supplied with water, for it not only possesses large rivers, but also contains extensive lakes, of which the Great Bear Lake, the Great Slave Lake, and Lake Winnipeg are the chief, while it borders on all the great American lakes, with the exception of Lake Michigan. The chief rivers are the St. Lawrence, which drains the five great American lakes, with its tributary the Ottawa; the Nelson and Churchill rivers, flowing into Hudson's Bay; the Mackenzie, in the basin of the Arctic Ocean; and the Fraser and the Columbia, entering the Pacific Ocean. The absence of distinctly-marked water-sheds is a curious characteristic of Canada. The river-basins either merge into each other or are separated merely by gentle and easily surmounted undulations of the surface (portages).

The *Climate* of British North America was formerly believed to be much more severe than is now known to be the case. The northern districts were spoken of as an American Siberia.

Speaking generally, we may describe the climate of British North America as being much colder than that of similar latitudes in Europe, chiefly on account of the icy currents on the east and north coasts of the former, while in the south of the Dominion very great extremes of heat and cold are experienced. At Fort Good Hope the mean temperature is - 22° F. in winter and 35·6° F. in summer, at Hebron the figures are - 2·2° F. and 42·8° F.; at Montreal 17·6° and 69·8°. Among the extremes of temperature observed were 87·8° and - 21° at Montreal; 80·6 and - 27·4° at Charlottetown; 95° and - 43·6 at Winnipeg; 59° and - 48° to - 58° in the prairies. The mildest climate is enjoyed by British Columbia, on the west coast, with extremes of 77° and 28·4°. The summers are sufficiently warm to permit the growth of cereals and trees in the centre and west as far north as 60°, wherever the nature of the soil is favourable.

The *Rainfall* is considerable; and large quantities of moisture descend in the form of snow.

NATURAL PRODUCTIONS.

1. **Vegetables.**—According to the characteristics of its surface, the Dominion may be divided into three great regions, viz. those of the Forests, the Prairies (chiefly in the south), and the Barren Grounds, consisting of rocky soil covered with low plants and moss. The future of Canada rests on its *Agriculture*, which, though it has hitherto been chiefly confined to the south-east districts, is now being gradually extended farther and farther to the north and west. Immigrants are converting the prairies into corn-fields, which require no manuring for 40 years, and which yield grain of all kinds, vying in quality with the finest cereals of the United States. The production, amounting to over 20,000,000 qrs., of which 6,000,000 qrs. are wheat, exceeds the domestic requirements; and there is no doubt that, with increasing immigration, Canada will take high rank as a grain-exporting country. Canada is capable of growing as much corn as is now imported by the whole of Europe.

Next in importance rank the immense *Forests* which grow in the provinces of Quebec and Ontario, and clothe the slopes of the Rocky Mountains. Oaks, cedars, pines, and firs attain in Canada a rare height and size, and supply stores of highly-prized timber for ship-building, both to the Pacific and to the Atlantic coast. Besides these the walnut-tree yields wood for the finer varieties of furniture, and the sugar-maple yields sugar. Tar, resin, and potash are also exported.

2. **Animals.**—*Stock-farming* has advanced side by side with agriculture; and indeed the exports of animals and animal produce are even more important than the export of cereals. The ordinary European domestic animals are found here in great numbers, especially cattle, horses, and sheep.[1]

The *Fur-bearing Animals* of the interior are also of great commercial importance, since Canada is the leading fur-producing country in the world. The chief of these wild animals are black, brown, and white bears, beavers (decreasing in numbers), otters, black, silver, and blue foxes, hares, musk-rats (the commonest fur-bearing animal), sables, ermines, wolves, etc. Deer of various kinds, including elks and reindeer, are of some importance, as furnishing meat and also skins. Buffaloes were formerly numerous, but are now almost exterminated.

More important, however, are the *Fisheries*, which form the chief resources of the inhabitants of the cold and foggy Newfoundland, Nova Scotia, and New Brunswick. Canadian waters yield fish and fishery-produce to the annual value of between £4,000,000 and £6,000,000, including cod (£1,000,000), train-oil, seal-skins (£50,000), and herring. The Gulf of St. Lawrence teems with fish.

American and French fishermen are admitted by treaty to a share of the cod-fisheries on the great banks of Newfoundland.[2]

The river and lake fisheries far out-distance in productiveness the best fisheries of Europe. Great care is bestowed on the artificial cultivation of salmon and trout.

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[1] In 1886 Ontario and Manitoba contained 593,000 horses, 2,105,000 cattle, 1,624,000 sheep, and 918,000 swine. Newfoundland contained 5400 horses, 20,000 cattle, and 40,000 sheep.—Tr.

[2] The question of the renewal of the Fishery Treaty with the United States has (1888) caused some friction between the two governments.—Tr.

3. **Minerals.**—The minerals of Canada are so far from being exhaustively exploited, that hardly an approximate idea has yet been obtained of their abundance. The more important minerals are all, however, known to be represented.

Coal (3,400,000 tons) is found in New Brunswick and Nova Scotia, but the coal-fields in the North-west Territories, to the east of the Rocky Mountains, and in Vancouver's Island, are still more extensive. The last-named island will one day be in a position to furnish sufficient coal for the entire shipping of the Pacific Ocean. *Iron* is chiefly mined in Nova Scotia. Inexhaustible supplies of *Nickel* are now being worked in Ontario. *Asbestos* and *Apatite* are also worked.

Copper and *Tin* are found in considerable quantities in the neighbourhood of the lakes.

Gold was discovered in 1856 in British Columbia on the Fraser River, and immediately attracted a stream of immigration thither. Gold-fields have subsequently been worked elsewhere, but the yield has declined of late years, and now barely averages £200,000 per annum in value.

Ontario contains numerous *Petroleum-wells*, from which much oil is sent to Europe.

MANUFACTURES.

The manufacturing industries of British North America are on the whole of little account, and the colony is still in many respects dependent upon Great Britain and the United States. But in view of the great natural wealth of the country, for the winning and working of which larger and larger establishments are being daily erected, manufactures cannot fail to make progress. The present manufactures are chiefly concerned with the raw material produced within the country.

The leading industrial establishments are finely-equipped flour-mills and saw-mills, chiefly in Quebec and Ontario; iron-foundries; factories for agricultural and other machinery;

sugar-refineries (maple-sugar), breweries, distilleries, tanneries, and tar-boiling and potash works.

Ship-building and the connected industries are carried on mainly at Quebec, St. John, Halifax, and on Prince Edward's Island.

The ordinary smaller handicrafts and trades are everywhere well represented.

TRADE AND COMMERCE.

The position of the Dominion of Canada between Asia, the United States, and Europe, its excellent harbours, and its abundant natural wealth assure for it a great future, which awaits only the development of its resources by the growing density of the population.

Internal Trade is powerfully assisted by the abundance of natural water-ways. Canada possesses more of these than any other country in the world. The great lakes and their outlet, the St. Lawrence, are of special value in this connection. By the widening of the Welland Canal these lakes have now been rendered accessible for sea-going ships of heavy burden. The chief obstacle to this trade is the fact that the rivers are frozen for long periods in winter.

Roads are found only in the more thickly populated regions; the vast interior is crossed only by hunting-paths.

The centre of the *Railway System* is Montreal, whence lines diverge in all directions, connecting the more important seaports and manufacturing towns. In 1891 there were 14,700 miles of railways open for traffic, and 800 under construction. The principal line is the *Canadian Pacific Railway*, opened in November 1885, which unites the eastern portions of Canada with the Pacific Ocean, and forms a link in the shortest route between Europe and Japan. This line is of the utmost importance for the rapid settlement of the southern parts of the Dominion.

The principal towns are united with each other and with Newfoundland, the Atlantic cable-station, by means of *Telegraph-lines*. In 1891 the Dominion contained 31,000 miles of telegraph-lines, and 2600 telegraph-stations, which transmitted 4,367,000 messages. In the same year the 8000 *Post-offices* transmitted 144,000,000 letters, newspapers, and packets.

The **Foreign Trade** is chiefly carried on with the United Kingdom and the United States, the latter trade being to a great extent overland. It centres mainly in *Halifax* (in Nova Scotia), *Quebec*, and *Montreal* (both on the St. Lawrence), and St. John (New Brunswick). These seaports are connected with each other and with Europe by various routes.

The total sea-borne *Shipping*, which annually enters and clears at Canadian ports, amounts to about 11,000,000 tons.

The leading mercantile position is held by Montreal, the largest city in British North America, and an important station for emigrants from Europe. The town is very favourably situated on the left bank of the St. Lawrence, which at this point, below its junction with the Ottawa, is navigable for ships of the heaviest burden. By railway or canal there is communication with the rest of the Dominion and the United States, the railway system of the latter being connected with the Canadian by means of the great Victoria Bridge. There is, therefore, little room for wonder that Montreal has become an industrial and commercial centre.

Other important trading towns are Toronto, on Lake Ontario, Hamilton and Kingston on the same lake, Ottawa (lumber), Winnipeg, and Vancouver.

The mercantile fleet of Canada in 1891 included 7000 vessels, with a total burden of over 1,000,000 tons.

The leading international *Steamship Lines* are the Allan, Dominion, Beaver, and Donaldson, which ply between Britain and Halifax, Quebec, and Montreal. The submarine cables between Canada and Northern Europe reach America at Newfoundland or Nova Scotia, the most convenient points of America from their nearness to Europe.

Imports and Exports.—The import trade is entirely in the hands of the United States and Great Britain. The chief *Imports* are manufactured goods of all kinds, especially woollens, cottons, and textile goods; metals and metal goods; also wool, cotton, hemp, tobacco, tea, sugar, coffee, fruits, coals. Weapons, tobacco, gunpowder, and trinkets are imported for barter with the Indians and Esquimaux.[1] In 1891 the total value of the imports was £25,000,000.

The chief *Exports* are the natural productions; timber and forest products (£5,000,000), animals and animal produce (£5,500,000), grain, flour, etc. (£2,700,000), fish (£2,000,000), apples, furs, leather, hides, horns, minerals, and petroleum. The total value in 1891 was £20,000,000.

As the custom-dues are the chief source of revenue the import-duties are somewhat high, ranging from 15 to 30 % *ad valorem* on different articles. The interest on the national debt and the guarantees on behalf of the railways consume so large a portion of the revenue, that both the national debt and the import-duties have a tendency to increase.

Banks, financial companies, and insurance companies support industry and trade. Accounts are universally reckoned in dollars. The English weights and measures are the official standards, but French measures are also used in Quebec.

2. BERMUDAS.

The Bermudas, or Somer's Islands, 360 in number, of which about 20 are inhabited, have a total area of 20 square miles, and a population of 15,000, including 6000 whites. The governor is appointed by the crown, and is assisted by an Executive Committee and a representative House of Assembly. The climate is very agreeable. The chief products are vegetables, such as potatoes and onions, shipped to New York in spring. Other exports are tomatoes, arrow-root, and lily bulbs. In 1891 the *Exports* were valued at £130,000, and were nearly all sent to the United States, which send food-supplies to the Bermudas in return. The value of the *Imports* was £326,000, being mostly from the United States.

The Bermudas form an important naval station, and are now a favourite winter resort for Americans. *Hamilton* on *Bermuda*

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[1] In this trade in Hudson's Bay Territory the unit of value has for 200 years been the beaver skin.

Island is the capital. The other chief islands are *St. George* (with a good harbour), *Ireland*, and *Somerset*.

3. BRITISH WEST INDIES.

Under the general name of the British West Indies are included all the British possessions in the western archipelago. These are arranged under six administrative divisions, viz.:—

1. **Bahama Islands**, about 800 in number, of which 26 are inhabited, with an area of 5400 square miles, and a population (1891) of 47,000. The chief town is *Nassau*, on the island of New Providence.

2. **Jamaica**,[1] to which are annexed the Turk's and Caicos Islands, with an area of 4400 square miles, and 648,000 inhabitants. *Kingston* (40,000 inhab.) is the capital; *Port Royal*.

3. **Leeward Islands** (Antigua, Montserrat, St. Christopher, Nevis, the Virgin Islands, and Dominica), with an area of 690 square miles, and a population of 120,000. *St. John's Town*, on Antigua, is the capital.

4. **Trinidad**,[2] 1750 square miles in area, with 170,000 inhabitants. *Port of Spain* (32,000 inhab.) is the capital.

5. **Windward Islands** (St. Lucia, St. Vincent, Grenada, and Tobago), with an area of 620 square miles, and a population of 150,000.

6. **Barbadoes**, 160 square miles in area, with a population of 170,000. This island, of which the capital is *Bridgetown* (21,000 inhab.), is the healthiest in the archipelago.

The white population of these islands is scanty in comparison with the negroes and other coloured inhabitants. Indian coolies have formed a considerable proportion of the working classes since the abolition of slavery.

NATURAL PRODUCTIONS.

The islands are exceedingly fertile, and share the common characteristics of the West Indies. The climate is tropical, but is tempered by the trade-winds. Tempests and earth-

[1] Discovered by Columbus in 1494.

[2] Discovered by Columbus in 1498.

quakes frequently work great havoc, and yellow fever sometimes carries off a small number of victims.

Most of the islands are mountainous; in Jamaica the highest summit attains the height of 7360 feet. The Little Antilles[1] are of volcanic origin; the Bahamas are coral islands.

The wealth of the West Indian possessions consists in their luxuriant *Flora*, in comparison with which both the animal and mineral kingdoms are poor. But curiously enough, the plants which are now the most valuable assets of the colonies, worth millions of pounds, were first introduced and acclimatized by Europeans. Thus the sugar-cane was introduced in 1508 from the Canary Islands, and again in the 18th century from Tahiti; and the coffee plant was first brought from Java in 1709.

The produce of these colonies, and, as a consequence, the value of the colonial plantations, have sunk enormously since the emancipation of the slaves in 1834. The low price of sugar has latterly been also greatly against their prosperity, and has led to the cultivation of fruits and other products, such as cacao. Sugar and cacao are the chief exports; others being coffee, fruits, tobacco, and dyewoods. Jamaica also yields ginger and pimento. The Bahamas produce tortoiseshell and sponges.

The *Manufactures* are restricted to those branches of industry immediately connected with planting and shipping, such as the preparation of sugar, rum (Jamaica rum), molasses, and shipbuilding.

TRADE AND COMMERCE.

The trade with the West India Islands is still chiefly confined to Great Britain, though the commerce of the United States with these islands is on the increase. Brazil, Cuba, France, and Germany also have a share in it. An active trade is maintained among the islands themselves, and with the neighbouring coasts of the mainland. Accounts are kept both in pounds sterling and in dollars.

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[1] The *Little Antilles* is a name sometimes given (as here) to the semicircular chain of islands formed by the Leeward and Windward groups; sometimes it is confined to the Dutch islands off the coast of Venezuela (Dutch Antilles). The *Great Antilles* are Cuba, San Domingo, Puerto Rico, and Jamaica.—TR.

The British colonies do not occupy the most favourable position in the West Indian archipelago, for the natural centre of the trade of the group is Cuba, with its harbour of Havana. But the British are better colonists and more skilful merchants than the Spaniards, and have been able to overcome the disadvantages of their position.

The chief commercial ports in the British West Indies are the capitals of the various administrative divisions mentioned above.

EXPORTS AND IMPORTS.

The chief *Exports* are the natural products of the islands, as mentioned above. Bananas and other fruits form an export that is rapidly rising in importance. Trinidad exports most sugar and cacao. The total annual value of the exports is upwards of £6,000,000.

The chief *Imports* are rice, flour, salted and preserved meat, salt fish, wine, oil, and all kinds of manufactured goods (mainly from England). The total annual value is £6,000,000.

There are colonial banks in Kingston and Bridgetown. Trade is also supported by regular lines of steamers (Royal Mail Steam Packet Company, West India and Pacific Steamship Company, Harrison Line).

4. BRITISH HONDURAS.

British Honduras, on the Gulf of Honduras, has an area of 7500 square miles, and a population of 28,000. The export of mahogany was at one time very considerable, but it is now suffering from the reckless and wasteful manner in which it was carried on. The supply of logwood and other timber is also now of no great account.

The capital is *Belize* (6000 inhab.), which is also the chief port. Honduras enjoys a certain amount of transit trade. Besides mahogany and logwood the colony exports sugar, coffee, and vegetables. The total value of imports and exports together is barely £500,000.

5. BRITISH GUIANA.

British Guiana is the most westerly of the three districts into which Guiana is divided, and it is the least unhealthy of the three. Its area is 109,000 square miles, and its population 288,000. Though damp and warm, the climate is not unhealthy, and encourages the growth of a most luxuriant flora. Sugar is the one great product of the colony, and is cultivated chiefly by coolies, mainly on the banks of the Demerara and Berbice rivers. Coffee, cacao, rice, tobacco, and arrow-root are also grown.

The wealth of the forests, which contain 300 sorts of fine timber, has not yet begun to be properly exploited. Gold-washing is now successfully carried on.

All manufactured articles, and meat, flour, salt, and coals require to be imported.

The colony is divided into three districts, named after the principal rivers, the Demerara, Essequibo, and Berbice.[1] The chief towns are *Georgetown* (53,000 inhab.) in Demerara, the seat of the Guiana Bank and of a branch of the West India Colonial Bank; and *Berbice* or New Amsterdam.

The colony carries on a considerable trade, extending to Great Britain, Brazil, Venezuela, the West Indies, and the United States. Direct steam communication with Europe is maintained by the Royal Mail Steam Packet Company, the Hamburg-Sudamerikanische Gesellschaft, and the Compagnie Générale Transatlantique.

The annual value of the *Exports* is over £2,000,000; of the *Imports* £1,800,000.

6. FALKLAND ISLANDS.

The Falkland Islands, 30 miles east of Patagonia, consist of East Falkland and West Falkland, and about 100 smaller islands, with an aggregate area of 6500 square miles, and a population of 1700. The capital is *Stanley*, with 700 inhabitants. These treeless and inhospitable islands are chiefly of importance as a station for the southern whaling fleet. Large herds of half-wild cattle and sheep (667,000 in 1891) roam in their interior.

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[1] A considerable tract in the valley of the Yuruari, believed to be one of the richest gold-yielding districts in the world, is claimed both by Great Britain and by Venezuela.—TR.

The chief *Exports* (annual value £120,000) are wool, hides, tallow, and frozen mutton. The chief *Imports* (value £70,000) are provisions, apparel, machinery, and hardware.

HOLLAND OR THE NETHERLANDS.

SITUATION AND BOUNDARIES.

The kingdom of the Netherlands lies between 50° 45′ and 53° 30′ N. lat., and between 3° 22′ and 7° 12′ E. long. It is bounded by the North Sea, Prussia, and Belgium. Holland has an area of 12,650 square miles, and a population (1886) of 4,400,000.

POPULATION.

The population is almost entirely of Germanic origin (Frisians, Saxons, Franks). Religious toleration in earlier centuries and commerce in the present century have encouraged the settlement here of many Flemings, French, Germans, Jews, and other foreigners. *Protestantism* is the prevailing religion. The former State (Reformed) Church embraces 62% of the population; the Roman Catholics, mostly in the southern provinces, form 36%; the Jews about 2%. Holland occupies the second place among European states in point of density of population; it has an average of 341 inhab. per square mile, varying from 118 in Drenthe to 732 in South and North Holland.

The almost unique physical peculiarities of their country have had a very decided influence on the development of the character of the Dutch, a fact paralleled in the case of Switzerland.

The sea is the perpetual, never-resting enemy of the Netherlander. He must constantly be on the outlook for means of combating it; the least point neglected, and the savage element robs him of his possessions.

This anxiety for his country renders it so precious and holy in his sight, that he is ready to defend it to the last drop of his blood, and he will rather give it up as a prey to the sea than surrender it to a human foe.

But the sea is not only the enemy of the Dutch, as the avalanche is the enemy of the Swiss. It is also their friend, and has made them the great people that they are.

Holland is emphatically a *Maritime State;* half of its boundaries (465 m.) are formed by the sea, and no spot in the kingdom is more than 120 miles from the sea.

Their situation on the banks of great rivers and on the sea has made the Dutch a trading nation, and a trading nation that extends its vision far and wide, and accepts a wholesale and extensive commerce as its province.

Education is at a high level; primary schools are numerous and well-equipped. In 1891 out of 100 children of school-age, 90 attended public schools. All educated Hollanders speak one or more foreign language, English, French, or German.

PHYSICAL FEATURES.

In its physical features Holland is the exact antithesis of Switzerland. The latter is the most mountainous country in Europe, the former is the flattest, with boundless monotonous plains, interrupted only by the dunes, and by a few undulations in the east and south. The country is justly named the "Netherlands," or "low lands," for one-fourth of its area lies below the sea-level; some districts in North and South Holland are from 12 to 20 ft. below the sea-level.

The whole country would be permanently under water, were it not protected from the inroads of the sea by the dunes and by artificial dykes or embankments.[1]

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[1] DUNES, DYKES, POLDERS.—The *Dunes*, which stretch along the entire coast of Holland, owe their existence to the action of the winds and sea, which heap up the sea-sand into rows of hills, from 30 to 60 ft. apart, and from 35 to 200 ft. high. These sand-hills are very scantily wooded, but they are prevented from disintegration by natural or fostered growths of plants. They are generally, however, quite barren; but the sandy regions behind them are carefully tilled.

The *Dykes* are the work of human hands. They are gigantic embankments of earth faced with stone or protected by stakes, and they protect the coasts from the

In spite of these the sea sometimes overwhelms extensive districts (the Dollaert and the Zuiderzee were inhabited regions in the 12th and 13th centuries), while it uncovers new islands and tracts of ground at other spots, which are soon converted into an abiding possession for man by means of dykes.

The character of their land has trained the Dutch to be the boldest and cleverest aquatic engineers in the world.

RIVERS.

The North Sea washes the whole of the north coast, which is difficult of access on account of the dunes. The river-mouths, with their ebb and flow, and a number of bays, chiefly in the Zuiderzee, form the few but sufficient harbours.

The chief rivers are the *Rhine*, the *Meuse* or *Maas*, and the *Scheldt*. The *Rhine*, on entering Holland, divides into numerous arms, the chief of which are the Waal, the Leck, and the Yssel. The lateral branches which diverge from the Leck, the Kromme Rhijn (Crooked Rhine), the Vechte, and the Oude Rhijn (Old Rhine), are not rivers at all properly speaking, but drainage-canals for the waters of the surrounding fields.

The Waal is joined by the *Meuse*, which must be regarded as a tributary of the Rhine. Rotterdam is a Rhine harbour.

The *Scheldt* divides itself into the East Scheldt and the West Scheldt; but the former branch has been dammed up for the construction of a railway.

There are numerous *Lakes* and moors scattered all over the country.

inroads of the sea at the points where there are no dunes. The largest is the Helder Dyke, 30 ft. broad and 200 ft. high. There are also smaller river-dykes on the banks of the Rhine and other streams.

In the lower-lying parts of Holland are great numbers of *Polders*, *i.e.* portions of land inclosed by dykes, which not only protect them from the surrounding water, but also render it possible to pump out the water from within the inclosure. The pumping is done by steam-engines or wind-mills moving Archimedean screws and water-wheels, which gradually empty the entire basin. The land thus won with so much toil is exceedingly fertile and valuable; canals, roads, houses, rows of trees, etc., are constructed in these Polders, and sold by the shareholders in the undertaking.

In this way very much land has been reclaimed in Holland, but it must be retained by a constant process of pumping. The Bay of Haarlem was reclaimed in 1853, and plans have been mooted for the draining of the south part of the Zuiderzee.

CANALS.

Holland is the land of canals. All the towns and even all the villages are connected with each other by canals. The superfluous water is drained from the marshy lands and bogs are transformed into fruitful fields by canals. And the ditches (*Slooten*) take the place occupied by hedges and fences in other lands, they separate one property from another, prevent cattle from straying from their pasture, etc. The domestic traffic of Holland is carried on by their means.

The principal canals are 65 ft. broad and 6 ft. deep, and they sometimes lie higher than the fields through which they pass.

Small screw-steamers have largely replaced the formerly common "Trekshuits," or long, narrow barges, drawn by horses walking along the tow-path beside the canal.

The most important canals are:

1. The great *North Holland Canal*, stretching from Amsterdam to Alkmaar and Helder. The harbour at its mouth is called Nieuwe Diep. This canal was constructed in 1819–25 at a cost of about 12 million Dutch florins, in order to avoid or shorten the dangerous passage of the Zuiderzee. In recent times its importance has much declined, as it is not wide enough for the modern large ships to enter, and even for others too much time is lost in the transit to Amsterdam.

2. The new *Noordzee Kanaal*, intersecting "Holland op zyn Smalst," finished in 1876. This canal is 16 miles long, and affords direct communication between Amsterdam and the North Sea, on the coast of which, near Velsen, a harbour named Ymuiden has been built, protected by massive breakwaters. The whole dimensions of this canal are calculated to meet the requirements of modern trade, and by its construction it has become possible to convert the greater part of the bay of the Y into rich "polder"-land.

3. The canal between Amsterdam and Utrecht (*Keulsche Vaart*), and thence beyond the Leck to the junction of the Waal and the Meuse. This canal has been very much improved within the last few years.

4. The *Willems Kanaal* from Maastricht to S'Hertogenbosch.

5. The *Rhine Mouth Canal*, an exceedingly bold and imposing work, constructed to afford the Oude Rhijn a deep channel to the sea, and to provide an outlet for the Harlemmer Meer.

6. The canal traversing the "Hoek van Holland," near Rotterdam, offering a convenient approach, with no locks, to Rotterdam.

CLIMATE.

The climate of Holland is oceanic, with a prevalently moist character. The average annual temperature is 50° F.

The summers are not very warm, the winters seldom very cold. In Amsterdam the mean temp. in Jan. is 35·6°, in July 64·4°. Rain falls on 147 days in the year; the annual rainfall is 30 inches.

The days are generally dull, misty, and damp; a week of bright weather is a rarity. Holland in general is healthy; but Zealand and the other western districts, in which clay and mossy soil prevails, suffer from marsh-fevers, to which all strangers are liable.

DIVISIONS AND CHIEF TOWNS.

Holland is divided into 11 provinces, the chief towns of which are the following:—

1. *North Holland.*—Amsterdam (378,000 inhab.; the capital), Ymuiden, Haarlem (48,000 inhab.), Zaandam, Edam, Hoorn, Alkmaar, Helder (naval port). Island of Texel.
2. *South Holland.*—The Hague (144,000 inhab.; seat of the court); Scheveningen, Rotterdam (190,000 inhab.), Schiedam, Delft, Vlaardingen (chief fishing port), Leyden (46,000 inhab.), Dordrecht or Dort, Gouda.
3. *Utrecht.*—Utrecht (79,000 inhab.), Amersfoort.
4. *Guelderland.*—Arnhem (47,000 inhab.), Nymuegen.
5. *Overyssel.*—Zwolle, Deventer, Kampen.
6. *Friesland.*—Leeuwarden (30,000 inhab.), Harlingen, Sneek.
7. *Gröningen.*—Gröningen (52,000 inhab.).
8. *Drenthe.*—Assen.

9. *Zealand.*—Island of Walcheren, with the towns of Flushing (naval station) and Middelburg; Schouwen, North and South Beveland, etc.

10. *North Brabant.*—S'Hertogenbosch, Tilborg, Breda, Bergen-op-Zoom.

11. *Limburg.*—Maastricht, Roermond, Venlo.

NATURAL PRODUCTS.

1. **Agriculture.**—The only parts of Holland that can properly be described as fertile, are those which have a stiff clay soil, *i.e.* chiefly the northern and western provinces, and part of Limburg. These districts are chiefly devoted to agriculture, which has reached a very high stage in Holland. Scarcely $\frac{3}{10}$ of the surface is occupied by arable land, including garden-land, while pasturage occupies more than $\frac{1}{3}$, and wood scarcely $\frac{1}{15}$; about $\frac{1}{5}$ is unproductive.

In these circumstances it is quite clear that the production must fail to meet the home consumption. Next to *Grain* (rye, 7,000,000 cwts.; wheat, oats, barley, buckwheat), *Potatoes* (the most important agricultural product after rye) and *Leguminous Vegetables* are the chief objects of culture. *Flax*, considerable quantities of which are exported, *Beet-root*, *Chicory*, and *Tobacco* (70,000 cwts.) are also among the more important crops.

The cultivation of *Flowers* and *Vegetables* has reached a very advanced development in the hands of the Dutch.

The centre of the flower-industry is Haarlem, which exports bulbs to all quarters of the globe.[1] Large quantities of vegetables and fruit are sent to England.

Holland is almost destitute of *Timber;* it imports its main supply from the Black Forest by the Rhine, and from Scandinavia, Finland, Russia (Riga), and Prussia (Dantsic).

2. **Animal Products.**—As in Switzerland, one of the chief national resources of the people is cattle-rearing. This branch of industry has attained a development in Holland equalled in few other countries in the world, and excelling even Switzerland.

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[1] Bulbs to the value of upwards of £83,000 are annually exported.

Cattle-breeding is carried on in Friesland, North and South Holland, Guelderland, and North Brabant, and about 150,000 head are annually exported, chiefly to England.

Dairy-Farming is also far advanced. Cheese (500,000 cwts.) is made chiefly in North and South Holland, at Alkmaar, Hoorn, Purmerend, Edam, Delft, and Gouda; while Sneek, Leeuwarden, Zwolle, and Delft are the chief centres of the *Butter* industry (800,000 cwts.).

Horses are bred with great success in Friesland, Guelderland, and North Brabant; about 12,000 animals are annually exported, and bring large prices.

Sheep are reared more for the sake of their flesh than of their wool. North Holland is the leading pastoral district. More than 300,000 head are annually exported to London alone.

Poultry-Farming, supporting a large export of eggs to England, and *Bee-keeping* also deserve mention.

Fishing is carried on on a large scale, and forms an important source of wealth to the country. The industry divides itself into River and Coast fishing (sprats, oysters, etc.), and Deep-sea fishing, the chief branch of which is the *Herring Fishery.*[1]

The Dutch herring-fishery has long occupied a commanding position, and has considerably extended within recent years, during which the annual catch has averaged 240,000 tons, or nine times as much as quarter of a century ago.

The English and North German fishermen have recently begun to compete keenly with the Dutch; but the herrings cured by the last still command the best prices, owing to the uniform certainty of their salting process, which takes place on board the smacks.

Cod-fishing is carried on chiefly in the North Sea. Large quantities of cod and other deep-sea fish are exported to Belgium and Germany.

3. **Mineral Products.**—It is a consequence of the alluvial nature of the soil of Holland that its supply of minerals is exceedingly scanty. There are wide expanses of country where

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[1] It was a Dutchman, Willem Beukelsohn, who discovered how to salt herrings, in the middle of the 14th century.

hardly a pebble is to be found. Almost all building-stone has to be imported (from Norway); but its place is largely supplied by bricks, most of which are made of clay from the Rhine, and possess great consistency.[1]

Coal, that most important mineral, is found in Limburg, but in far from abundant quantities.

Bog Iron Ore is raised to the east of the Yssel and in North Brabant, and some is exported to Germany.

Salt is procured in Holland from crude salt imported from abroad.

Turf, or *Peat*, which serves as the chief fuel in Holland, is cut in very large quantities. The principal deposits are in Drenthe, Friesland, Overyssel, and Gröningen.

MANUFACTURES.

Holland is emphatically a commercial and maritime state; but not an industrial state. Its manufactures hardly meet its own demand, and only a few articles are exported. The want of raw material and fuel, as well as of water-power, prevents it from competing with its neighbours that are more fortunate in these respects.

But whatever the Dutchman produces bears the stamp of industry and solidity, and is of high excellence.

The chief manufactures are:—

Cotton.—Calicoes are made in specially large quantities, and are sent to India, Lower Guinea, where the African Trading Company of Rotterdam has factories, and China; they represent an annual export value of £1,500,000. The leading factories are in Overyssel, where Enschede, Lonneker, and Hengelo are centres, and in North Brabant. The number of spindles is about 250,000. Amsterdam, Haarlem, and Leyden possess extensive dye-works and calico-printing works.

Linen is manufactured chiefly in the south-east of North Brabant. Haarlem has extensive bleach-fields. The reputation of the once universally famous "Dutch linen" has declined.

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[1] Many of the high-roads are paved with these bricks, but they are expensive, and require high tolls to maintain them.

Sail-cloth of the best quality is made in North and South Holland.

Woollens, which at one time enjoyed a world-wide reputation, are now of less importance. The capital of the woollen industry is Tilborg; and the carpets of Deventer are also in much request. As a general rule, the Dutch textile industries have very actively developed since the separation from Belgium in 1830.

Leather is made in considerable quantities in numerous towns, especially in North Brabant.

Earthenware is universal in Holland; *Brick-fields* are especially numerous. *Clay-pipes* are made at Gouda in South Holland; *Stoneware* at Maastricht and Delft; and *Glass-ware* at Maastricht.

Tobacco is manufactured in many places. The most extensive factories are at Amsterdam (where many of them produce 10,000,000 cigars annually) and Utrecht.

Sugar-Refineries are found chiefly in Amsterdam and North Brabant. They are using every year more and more beet-root, and less and less cane.

Liqueurs are distilled in Amsterdam and Rotterdam; *Gin* (Hollands) is made at Schiedam, Amsterdam, and Rotterdam. The larger towns contain breweries, which are also numerous in North Brabant.

The *Diamond-cutters* of Amsterdam are still the most famous in the world, although in recent times both Paris and London have endeavoured to compete with them.[1]

Ship-building is one of the oldest and most important industries in Holland, though in consequence of the superseding of sailing ships, and owing to the increased use of iron ships, it has much declined. At one time there were 700 ship-building yards and stocks, the chief of which are at Amsterdam, Flushing (both also naval dockyards), Rotterdam, Nieuwe Diep, and Zaandam. Many iron steamers belonging to Holland are built in England.

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[1] This famous industry is entirely in the hands of the Jews, who cut the stones in their own factories, as brilliants, rose-diamonds, etc. In the case of large and fine diamonds, weeks are often passed in debating how they may be cut to the best advantage.

The *Metal Industries* of Holland have been hardly developed at all; the chief branch is the manufacture of *Machinery*, carried on at Amsterdam and Rotterdam.

Tin-plates are produced at the Hague. Fancy articles in metal are not produced at all.

Gold and *Silver* wares are manufactured chiefly at Amsterdam, Voorschoten near Leyden, and S'Hertogenbosch.

TRADE AND COMMERCE.

Holland is still one of the leading commercial nations of the globe. Its trade embraces every continent, and is therefore, firstly and chiefly, maritime.

The flat and sandy coast has, as already mentioned, few good harbours; the two largest and safest, Rotterdam and Amsterdam, monopolize almost the entire maritime trade of the country.

Rotterdam is situated near the mouth of the Meuse, which, however, is impeded with sand, so that an open canal has been dug a little to the north, through the dunes, by which ships of the heaviest burden may approach the town. Rotterdam thus unites the river-traffic of the Rhine and the Meuse with the deep-sea traffic; and is practically as much a Rhine-port as Hamburg is an Elbe-port.

These advantages have enabled Rotterdam to take the position of the leading commercial town in Holland. Vessels ply regularly hence to all the larger ports of western and northern Europe; to Amsterdam, Middelburg, Bremen, Hamburg, Stettin, St. Petersburg, Copenhagen, Glasgow, Hull, Grimsby, Harwich, Leith, Liverpool, London, Newcastle, Antwerp, Dunkirk, Havre, Bordeaux. The steamers of the *Dutch-American Steamship Company* leave Rotterdam (and also Amsterdam) every fortnight for New York; and the steamers of the *Rotterdam Lloyd* sail once a month to Java. The traffic by sailing ships with the colonies and other distant lands is also highly important.

Rotterdam is the depot for the produce of the colonies, as well as of the home agricultural industries. The German

Customs Union also has its depot here. Almost the entire traffic carried on by means of the Rhine between Holland and Germany, and between Germany and England, passes through Rotterdam.

Rotterdam is annually visited by about 14,000 ocean ships, with a burden of 2,500,000 tons, and by 10,000 river craft, besides numerous canal barges. Three railways converge at Rotterdam.

The second largest harbour is *Amsterdam*, called the "Venice of the North," because it is built partly upon piles and partly upon 90 islets, connected with each other by 290 bridges.

Amsterdam is also connected with all the above-mentioned ports and countries; and it has besides regular communication with Christiania, Stockholm, Königsberg, Dantsic, Lisbon, Genoa, Leghorn, Naples, and Java (*viâ* Suez); and active trade with Havana, China, Japan, and India. The steamers of the *Maatschappij Nederland* (14 large vessels, one every 10 days) and of the *Insulinde* ply to the Dutch East Indies; and those of the recently started *West Indian Mail Service* to Surinam.

Four railways converge at Amsterdam, which is the leading *Money-Market* in Holland, and one of the principal coffee-markets in the world.

From 11,000 to 12,000 ocean ships, with an aggregate burden of 1,500,000 tons, annually enter and clear at Amsterdam.

The other seaports, Flushing, Middelburg, and Harlingen, carry on an active trade with adjoining countries, but are far behind Rotterdam and Amsterdam in importance. The *Maatschappij Zeeland* maintains a regular service of mail steamers between Flushing and Queenborough (direct route to London).

The merchant fleet of Holland in 1891 included 478 sailing ships, with a burden of 130,000 tons, and 143 steam-ships, with a burden of 160,000 tons.

In 1891, in all the Dutch harbours, 9365 vessels (5,710,000 tons) entered, and 9262 vessels (5,690,000 tons) cleared.

Inland Communication.—The Scheldt and Meuse unite Holland with industrial Belgium; the Rhine unites it with Germany.

All three are traversed by numerous craft, which carry on an active trade, exchanging the manufactures of Belgium and Germany for the productions of the tropics.

Other means of communication are offered by the numerous good *Roads*, often running along embankments, and all paved with bricks (klinkers), and in recent times the *Railways.*[1] The most important railway lines are those from Amsterdam to Rotterdam and Antwerp; from Amsterdam to Utrecht and Emmerich; from Amsterdam to Zutphen and Salzbergen (for Berlin); from Maastricht to Aix-la-Chapelle and Liège; from Utrecht to Arnhem, Zwolle, Leeuwarden, and Gröningen; finally, from Helder to Haarlem (and Amsterdam), the Hague, Rotterdam, Venlo, and Flushing.

The Dutch railways in 1891 had a total length of 1840 miles.

Holland has 3311 miles of *Telegraphs.* A submarine cable lies between Zandvoort and Lowestoft in England.

The *Exchange* of Amsterdam is one of the largest produce-exchanges in the world.

The *Bank of the Netherlands* at Amsterdam, founded in 1814, carries on trade in the precious metals, and possesses the monopoly of the right to issue bank-notes.

The extensive *Handelsmaatschappij* imports the coffee from the government plantations, and tin; and every six weeks holds important auction sales at Amsterdam and Rotterdam, which regulate the price of coffee for the whole of Europe.[2]

There are money-lending societies at Rotterdam, Amsterdam, etc.

Customs Dues in Holland are unusually light. No article pays more than 5%; and many (*e.g.* grain, iron, wool, cotton, and coal) pay nothing at all. Only those articles which bear an excise-duty for inland consumption (*e.g.* wine, beer, sugar, salt, soap, vinegar, and fat cattle) pay an import duty of an equal amount. The revenue from excise and taxes is £335,000.

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[1] The Dutch long clung to the belief that their canals rendered them independent of railways. Finally, however, they began to build railways, according to a comprehensive and uniform plan, which has now been completed.

[2] This celebrated company was founded in 1824 with a capital of £2,000,000 as a trading association. Latterly it has been devoting itself more and more to the money market. In 1883, on behalf of the government, it sold £3,200,000 worth of coffee and £450,000 worth of tin from the mines of Banca.

The chief centres of the domestic trade are: Rotterdam, Amsterdam, Flushing, Dordrecht (timber), Middelburg, Leyden, Utrecht, Nymegen, Alkmaar, Gouda, and Hoorn (cheese).

IMPORTS AND EXPORTS.

The chief *Imports* are raw material and food-stuffs; grain and flour (£8,380,000), hemp, timber from Germany, Norway, and Russia; wine and southern fruits from France and Spain; coals and metals from England and Prussia; salt from England, France, and Spain; lime, cement, metal goods, all kinds of textile goods, glass-ware, and other manufactured articles from England, Belgium, the German Customs Union, and Switzerland, largely for home consumption; petroleum, meat, and tallow from America; palm-oil from the Congo State; guano from South America. Coffee, indigo, cotton, sugar, rice, tobacco, and tin are imported from the Dutch colonies and from America, but largely only to be re-exported.

The total annual value of the imports is about £91,000,000.

The main *Exports* are cattle, sheep, butter (500,000 cwts.), cheese (about 600,000 cwts.), eggs, meat (fresh and preserved), fish (herrings and fresh fish), oats, leguminous vegetables, flax (300,000 cwts.), tobacco and cigars (60,000 cwts.), madder, seeds, gin, candles, and fully-equipped vessels.

The total value of the exports is about £73,000,000, not including the goods merely re-exported, which are estimated (1885) at 44 million cwts.

LUXEMBURG.

The Grand-duchy of Luxemburg has an area of 1000 square miles, and a population of 210,000 (210 per sq. m.), who are mostly Roman Catholics. It is bounded by France, Prussia, and Belgium. Agriculture and cattle-rearing are here productive industries; but $\frac{1}{3}$ of the area is under wood. The Ardennes (2130 ft.) and Eifel mountains yield stone, coal, and iron ore (8,000,000 cwts.), a mineral wealth which explains the important *Iron Industry* of the country. Woollens and linens are also manufactured.

The chief town is *Luxemburg*, with 17,000 inhab., which was a fortress of the Germanic Confederation until 1866. After the Treaty of London (May 11th, 1867) the fortifications were razed, and the grand-duchy declared neutral and united with Holland by a personal union. It retains a separate constitution. So far as regards its trade-relations, it is incorporated in the German Customs Union, to which its whole industrial interests seem to refer its mostly German-speaking and well-to-do population. There are 224 miles of railway in Luxemburg.

THE DUTCH COLONIES.

The Dutch possess the second-largest colonial empire in the world. It embraces 686,000 square miles, and has a population of 30,000,000. These possessions are divided between America and Asia, but only 46,400 square miles, with 100,000 inhab., are in the former continent; so that the Dutch colonial empire, in the Sunda Islands and the Moluccas, is more concentrated and compact than that of any other power.

The skilful colonial policy of the Dutch, which has always been guided by the maxim, "the Dutch colonies for the Dutch," renders the Indies an inexhaustible source of wealth to the mother-country and protects the natives from arbitrary oppression and spoliation.[1]

I.—ASIATIC COLONIES.

For administrative purposes the Asiatic possessions are divided into *Java*, with Madura, and the *Outposts*, embracing the remaining Dutch East Indies. At the head of the government is a governor-general, who is also commander-in-chief on land and sea. He is assisted by the "Council of the Indies." The army is recruited by voluntary enlistment.

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[1] Cf. Zehden's *Das Leben und Schaffen der Holländer in Indien*, in the Jahrbuch des Wiener kaufmännischen Vereines, 1884.

JAVA.

Java, including the neighbouring island of Madura, has an area of 51,000 square miles, and a population of 21,000,000, the great majority of whom are natives, belonging to the Malay race. There are about 34,000 Europeans on the island, but certain limitations are imposed upon the right of permanent settlement by others than Dutch subjects, and upon their freedom of trading. A much larger number (350,000) of "Oosterlinge," *i.e.* Chinese, Arabs, Hindoos, etc., have settled in Java. The prevalent religion is Islam.

The Chinese, who have spread themselves to a startling extent all over Eastern Asia and Polynesia, play a prominent part in the Dutch colonies also. They are principally wholesale and retail traders, farmers of the opium trade, contractors for mining and road-making, mechanics, keepers of gambling-houses and opium-dens, etc., always preferring to work with their heads to working with their hands.

Java is mountainous, with some summits upwards of 9800 ft. high, abounds in active volcanoes, and is well supplied with water. The development of its vegetation corresponds to these favourable natural conditions. "Taking it as a whole, and surveying it from every point of view, Java is probably the very finest and most interesting tropical island in the world. . . . And it is undoubtedly the most fertile, the most productive, and the most populous within the tropics."[1] Java lies in the region of the monsoons. Its climate is unhealthy for Europeans. Its mean temperature in Jan. is 78·8° F., in July 78·6° F.

NATURAL PRODUCTIONS.

1. **Vegetables.**—In the plains and in the districts less than 4000 ft. above the sea-level, all the products of the tropical world flourish in lavish abundance. The regions between

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[1] *The Malay Archipelago,* by A. R. Wallace.

2000 and 4000 ft. present the most luxuriant and gorgeous vegetation. At higher elevations the flora resembles that of South Europe, and higher still it gradually assumes an Alpine character.

In order to procure the greatest possible quantity of colonial produce for the purposes of trade, the government, under General Graaf Van der Bosch, introduced in 1830 the "culture system" over most of the islands. Under this system government exacted one-fifth of the produce of each "dessa" or commune, and the Javanese were bound to cultivate in these whatever plant (coffee, indigo, pepper, etc.) the government considered the most suitable or the best adapted for the purposes of trade. The harvests were brought as taxes to the government warehouses.

This culture system, however, which was gradually converting the entire Sunda Archipelago into a gigantic agricultural factory, finally proved unworkable, and in 1864 its chief feature was abolished. Since then government has restricted its agricultural operations to managing coffee plantations, in which the natives are compelled to work at a low rate of wages (14 guilders, or 23*s.* 6*d.* per "picul"[1] of coffee ready for market). The coffee is brought to the government warehouses, where it is packed, and it is then sent to Holland and sold by the Handelsmaatschappij, at auctions of which there are usually ten every year. The sums obtained are still one of the chief sources of revenue for the Dutch colonial government.

The sugar plantations, most of which were farmed out by government, were also subject to a certain degree of government inspection, but since 1890 the cultivation of sugar has been left quite free.

Private cultivation has recently been developing itself in Java, and since 1870 stretches of land, hitherto untilled, have been granted on hereditary leases for 75 years. Most of the private planters cultivate coffee.

The chief food of the inhabitants is rice, which attains great excellence in Java, so that much of it is exported and an inferior quality imported. About $\frac{1}{7}$ of the exported rice is sent to Europe, the remainder to China, etc.

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[1] A picul=133⅓ lbs.

The chief exports are, however, *Coffee* (about 1,600,000 cwts.) and *Sugar* (5,000,000 cwts.).

Owing to the high duties Java *Tea* cannot compete with British India, and its cultivation is declining.

Tobacco, indigo, pepper, bamboos, *Peruvian Bark*, cinnamon, tamarinds, turmeric, and teak are also among the exported products of Java.

2. **Animals and Minerals.**—Though there is no systematic cattle-rearing in Java, it exports hides. Tiger-skins and other specialties are also objects of trade.

The fisheries off the coasts are very important, as the consumption of dried fish is very large. The nests of the Salangane, a kind of sea-swallow, are collected by the natives of the south coasts, and exported for consumption by Chinese and European connoisseurs. About 500,000 nests are "gathered" yearly, and sold for about £3, 16*s.* per lb.

Cochineal is also a valuable article of commerce.

Java appears to be poor in *Minerals*. Salt, coal, and some petroleum are found, but they are not exploited.

MANUFACTURES.

The domestic trades are in the hands of the Chinese.

The only native manufactures of importance are the so-called "Battiks," or woollen stuffs ornamented with arabesque patterns. European imitations of these are largely imported and used.

The sugar-refineries, indigo-factories, and ship-building yards (Soerabaya) also deserve mention.

Javanese work in copper, silver, and gold still enjoys a high reputation throughout the whole archipelago.

TRADE AND COMMERCE.

The chief towns of the country are connected by good roads. Buffaloes are used as draught animals.

Java contains 620 miles of *Railways*, 114 post-offices, and 68 telegraph-offices. By the cables between Europe and Australia, which traverse Java, 91,000 international messages were transmitted in 1885.

The foreign trade is very extensive; the coasting-trade and the trade with the neighbouring islands is unusually active. The latter have regular communication with Java, by means of the vessels, 22 in number, of the Compagnie de Navigation à Vapeur aux Indes Neederlandaises. A large proportion of the products of these islands pass through the ports of Java.

Batavia (89,000 inhab.), the capital of the Dutch Indies, distances all its rivals in commerce also, although the British port of Singapore keenly disputes with it the position of depôt for the products of the Outposts. The merchants, who have their offices in Batavia, reside in the healthy and elevated suburbs.

Soerabaya (about 123,000 inhab.) has the best anchorage in Java, and, like *Samarang*, is an important centre of the foreign trade.

The *Exports* consist partly of those of the government, and partly of the produce belonging to private owners. The Handelsmaatschappij acts as the agent for government; all government exports are exported in vessels under the Dutch flag.

THE OUTPOSTS.

Under this name is included an area of 585,000 square miles, with a population of 8,500,000. The inhabitants of the western islands are Malays, and of the eastern Papuans. The islands are mountainous, and some of them are of volcanic origin. They lie in the torrid zone, in the region of the monsoon, and are distinguished for their luxuriant vegetation. Barren spots are almost unknown; and by far the greater part of their area is still covered by the most luxuriant virgin forests. The aborigines occupy a very low level of civilization; cannibals and "head-hunters" are by no means rare among them.

CHIEF ISLANDS AND TOWNS.

The Larger Sunda Islands. Besides Java, Holland possesses:

1. **Sumatra,** with *Padang* (25,000 inhab.), *Palembang* (42,000 inhab.), *Singkel*, *Bencoolen*, *Deli*, and *Achin* (Atjeh).

2. **Borneo** (198,000 sq. m.), the entire island, with the exception of the regions now under the British protectorate (see p. 123). *Pontianak, Bandjermasin.*

3. **Celebes,** with *Macassar* and *Menado.*

The **Residency of Riau,** embracing a number of small islands in the Straits of Molucca, including:

Banca and **Billiton.**

The **Lesser Sunda Islands,** to the north-east of Java; *Bali* and *Lombok. Sumbawa, Flores,* the western part of *Timor,* etc.

The **Moluccas** or **Spice Islands,** subdivided into:

1. The **Banda Islands.**
2. The **Amboina Group** (*Ceram*).
3. The **Moluccas Proper** (*Gilolo*).

The western part of **New Guinea,** with the neighbouring *Kei* and *Arü Islands.*

NATURAL PRODUCTIONS.

1. **Vegetable Products.**—*Rice,* here also the chief food of the inhabitants, is exported in considerable quantities.

Sago is obtained throughout the whole archipelago, but chiefly from Ceram in the Moluccas.

Pepper and *Java Pepper* flourish in Sumatra and the Riau Islands, and on others of the Great Sunda group.

Areca-nuts, the nuts of a kind of palm, are used with the leaf of the betel pepper and a little lime to form a chewing mixture, which is largely indulged in by the Malays.

The Molucca group is the home of the *Clove,* which is the almost exclusive object of cultivation in Amboina and the Oliasses Islands to the east.

Nutmegs flourish in the Banda Islands; *Cinnamon* in Sumatra; *Ginger* in Sumatra and the Moluccas; *Gambier* (*catechu, cutch,* a vegetable substance used in tanning) in Sumatra.

Coffee is cultivated in Sumatra (in the neighbourhood of Padang), and in the Celebes (Menado). The Padang coffee is one of the best varieties known. The growths from the plantations of Soemanik and Barissan bring double the price of the Menado coffee; so that Sumatra, especially its west coast, will prove a mine of wealth, if as much be done for it as has been done for Java.

Cacao grows in the Moluccas and the Celebes.

Tobacco is cultivated in increasing quantities at numerous spots. Wrapping-leaves for cigars, of excellent quality, are produced in the north-east of Sumatra (district of Deli). The plantations, like the pepper plantations of Riau, are cultivated by Chinese labourers.

The *Benzoin-tree* is found in Sumatra; the *Camphor-tree* in Sumatra and Borneo.

Castor-oil, *Cajeput-oil*, *Resin*, *Caoutchouc*, *Palm-oil*, and *Butter-tree Oil* are also produced. Among the *Dye-stuffs* are *Indigo*, *Dragon's-blood*, *Saffron*, and *Turmeric*. *Sapan-wood* and *Sandal-wood* are found in almost all of the islands.

Teak, *Iron-wood*, and *Ebony* are among the woods important in commerce. *Bamboo* and *Rattan canes* are known both in domestic and commercial circles.

2. **Animals.**—The horses of Sumbawa and the southern Celebes are excellent. Most of the other animal-products are the fruits of the chase.

Ivory, rhinoceros-horns, and tiger-skins are exported from Sumatra and Borneo.

Musk, swallows'-nests, tortoise-shell, and trepang should also be mentioned. Macassar is the chief centre for the last-named.

3. **Minerals.**—*Gold* is found on all the larger Sunda Islands, except Java.

Tin is a highly important product in Banca and Billiton. The Banca mines are worked by Chinese companies, from whom the Dutch government purchases the metal at a fixed price,[1] re-selling it in Europe for occasionally five times the amount. The Billiton mines are in the hands of a private company. The total average yield per annum is about 9000 tons, of which one-half is mined in Banca.

Iron, coppper, zinc, lead, sulphur, salt, etc., are also worked.

Coal is attracting a steadily-growing attention. Hitherto only an inferior quality has been worked, in the south-east of Borneo; but the extensive and rich coal-fields of Sumatra are also on the point of being exploited.

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[1] In 1887 the price paid by government was 13 fl. (21*s.* 8*d.*) per picul (135¼ lbs.) in Banca, and 20 fl. (33*s.* 4*d.*) in Billiton.

Diamonds are found in Borneo in considerable numbers.

TRADE AND COMMERCE.

The chief centres of trade are the already-detailed capitals of the islands, where the Dutch maintain larger or smaller factories, residencies, and military stations, by which they control the trade. These islands possess no system of cultivation, and no political, as apart from a commercial, government, such as are found in the scantily-tilled and easily-accesssible island of Java. In fact the backward state of cultivation in these islands corresponds to the low stage of civilization of their inhabitants, though it is said that all these islands are gradually to be brought under cultivation like Java.

The English ports of Singapore and Penang share, as already mentioned, in the trade of the Dutch possessions.

EXPORTS AND IMPORTS.

The total annual value of the *Exports* from the Dutch Indies, including both Java and the Outposts, is about £15,660,000, of which about $\frac{4}{5}$ go to the credit of private undertakings, and $\frac{1}{5}$ to that of the government. These exports consist of the natural productions above-mentioned.

The chief *Imports* are rice (from Farther India), food-stuffs (butter, cheese, preserved meats, wine, tea, opium), petroleum, manufactured goods (especially calico), yarn, iron and metal goods of all kinds; fancy articles, cigars, stoneware, etc. The total annual value is about £11,660,000. Java takes especially large quantities of manufactured goods and petroleum.

One-third of the imports come from the Netherlands, one-fourth arrive *viâ* Singapore, and the remainder from England, America, Manilla, France, and (more recently) Austria.

The differential customs-tariff, which formerly prevailed, was entirely abrogated in 1875. Most articles are now subject to a duty of $6^{\circ}/_{0}$ *ad valorem.*

AMERICAN POSSESSIONS.

The Dutch possessions in America fall into insignificance beside the rich Asiatic domains. They form two districts:

1. **Surinam**, or **Dutch Guiana**, with an area of 46,000 square miles, and a population of 54,000. The capital is *Paramaribo.*

2. **Curaçoa**, or the **Dutch Antilles**, with an area of 400 square miles and 44,000 inhabitants, embraces the islands of *Curaçoa*, *Bonaire* or *Buen Ayre*, *Aruba* or *Oruba*, *St. Martin* (half of which, however, belongs to France), *St. Eustache*, and *Saba.* Slavery was abolished in these islands in 1863, and the consequent deficiency of labour was partially met by the importation of coolies from British East India. In late years there has been no want of hands.

The chief productions of these colonies are sugar, rum, cacao, a little coffee, cochineal, and gold.

Curaçoa carries on an active trade with Venezuela.

BELGIUM.

SITUATION AND BOUNDARIES.

The kingdom of Belgium lies between 49° 30′ and 51° 30′ N. lat., and between 2° 32′ and 6° 7′ E. long. It is bounded by the Netherlands, Rhenish Prussia, Luxemburg, France, and the North Sea, and has an area of 11,373 square miles, and a population (1886) of 5,910,000. The situation of Belgium is the most advantageous on the Continent; from its position and its population it forms the natural link or intermediary between France and Germany on the one hand, and between France and England on the other.

POPULATION.

The inhabitants of Belgium are partly Flemish (57°/₀), and partly Walloons and French (42°/₀). The dividing line between the two languages runs from Verviers to Courtrai, *viâ* Waterloo; to the north of this line Flemish is the prevalent language, to the south Walloon prevails. French is the official language. Latterly a strong reaction in favour of Flemish has obtained considerable influence.

Belgium is the most densely populated country in Europe, having 512 inhabitants to the square mile; 67°/₀ of the people live in towns. Nearly all the Belgians are Roman Catholics; only some 15,000 being Protestants and 3000 Jews.

The *Educational Condition* of the country is steadily improving; but in some districts the public primary schools leave much to be desired. Higher education is carried on by means of Athenæums (gymnasia), and technical schools of navigation, engineering, trade, commerce, and mining, besides four universities. The scholastic arrangements are more French than German in their general character.

Belgium is a constitutional hereditary monarchy.

SOIL AND CLIMATE.

The west of Belgium is a decided plain; some points on the coast are below the sea-level, and require to be protected from inundation by means of dykes. The extreme north-east is occupied by marshes and heaths (the so-called Campine), the area of which is being steadily reduced by draining and cultivation. In the south and south-east rise spurs of the Hohe Venn and of the well-wooded Ardennes (2200 ft.).

The *Climate* of Belgium is temperate. On the coast it is mild and equable, though moist; but in the Ardennes, on the other hand, the extremes of heat and cold are considerable. Brussels has a mean temperature of 50° F. (in January 37·4° F., and in July 64·4° F.).

RIVERS AND CANALS.

Belgium is blessed with an abundance of natural and artificial waterways. It possesses 430 miles of navigable rivers, and 500 miles of canals, some of which float sea-going ships.

The chief rivers are the Meuse, with its tributary the Sambre, and the Scheldt. Large ships ascend the last as far as Antwerp.

The importance of the Scheldt for Belgium is much affected by the fact that the mouth of the river is in Holland, which, however, fully guarantees freedom of navigation.

The most important of the numerous canals are those between Charleroi and Brussels, Brussels and Ghent, Ostend and Bruges and Ghent, and the Canal de la Campine (50 miles long).

DIVISIONS AND CHIEF TOWNS.

Belgium is divided into 9 provinces, 5 of which are Flemish and 4 Walloon.

Flemish Provinces.

1. *South Brabant.*—Brussels (175,000 inhab., or with the nine adjoining communities 410,000 inhab.), capital and residence of the court; Louvain, Waterloo.
2. *East Flanders.*—Ghent (145,000 inhab.), built on 25 islands, connected by 300 bridges; Oudenarde, St. Nicolaus, Alost, Eecloo.
3. *West Flanders.*—Bruges (Brügge, 46,000 inhab.), Ostend, Nieuwport, Ypres, Courtrai (Kortryk).
4. *Antwerp.*—Antwerp (207,000 inhab.), Mechlin (Malines, 48,000 inhab.).
5. *Limburg.*—Hasselt, Tongeren.

Walloon Provinces.

1. *Hainault.*—Hainault (Hennegau), Mons (Bergen, 24,000 inhab.), Tournai (Dornik), Charleroi.
2. *Liège.*—Liège (Lüttich, 137,000 inhab.), Seraing, Verviers (46,000 inhab.), Limburg, Spa.
3. *Namur.*—Namur (28,000 inhab.), Dinant.
4. *Luxemburg.*—Arlon, Bouillon.

NATURAL PRODUCTIONS.

1. **Agriculture.**—Of the entire area of Belgium 85% is productive; 15% of that is under forest, and the rest occupied by arable lands, pastures, and gardens. The land is divided into

very numerous and small portions, which are cultivated with the greatest diligence and care.

The country cannot, however, meet the home demand for cereals; and grain is imported in constantly increasing quantity. In 1891 grain and flour to the value of £18,000,000 were imported, chiefly from America. Potatoes, beetroot, flax (the wealth of the Flemish peasantry), turnips, hemp, madder, fruit, and flowers are grown in sufficient quantity not only to supply the home demand, but also to maintain an export trade.

2. **Live Stock.**—Cattle-breeding is by no means an extensive industry in Belgium, and in fact the country has to supply the deficiency (in meat, tallow, etc.) by importation. In this department also North America occupies a still more distinctly leading position. Much care is bestowed in Belgium upon the improvement of the native breeds. The approximate numbers of the domestic animals are as follows:—cattle, 1,300,000; horses (handsome heavy-draught horses in Brabant), 300,000; sheep, 500,000; pigs, 600,000.[1]

3. **Minerals.**—The foundation of the prosperity of Belgium is its richness in minerals, which has won for it the title of "Little England." The enormous smelting industry and the connected metallic industries are facilitated by the extraordinary abundance of *Coal*, fields of which occupy $\frac{1}{20}$ of the whole country.

In 1886 about 17,000,000 tons were raised, of which upwards of two-thirds were consumed in the country itself.

The two principal coal-fields are those beside Namur and Charleroi, and on the Meuse, near Liège. In many places the coal is difficult to work, besides being of inferior quality. The Belgian coal-industry now employs about 100,000 hands, and 500 steam-engines. Belgium is the fourth country in Europe in respect to the amount of coal yielded.

Next in importance to coal is *Iron*, which is smelted in the same districts; and this proximity to fuel renders the working of it, as in England, comparatively inexpensive. About 720,000 tons of pig and wrought iron are produced annually; since 1866 the production of iron ore has steadily decreased, owing to the increasing quantity of the rich Luxemburg ore brought to the Belgian furnaces.

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[1] There has been no animal census in Belgium since 1880.

Zinc (100,000 tons), lead (7700 tons), and copper are also worked in Liège, which is one of the richest mineral districts in the world.

Spa possesses the most famous (chalybeate) of the Belgian mineral springs; Tongeren, Chaude-fontaine (near Liège), etc., have also mineral springs.

Building-stone, fine marble and slate from the Ardennes, potter's clay, and excellent whetstones are among the other products of Belgium. Salt is imported from England, France, and Portugal.

MANUFACTURES.

Even in the middle ages Belgium was one of the leading industrial states in Europe. In the present century it lays claim to the same character, for all the natural advantages of the country for the development of an extensive manufacturing industry are utilized in the most thorough manner. Nearly a million of the inhabitants are engaged in industrial pursuits. In 1854 steam-engines, with a combined strength of 54,000 horse-power, supplemented human labour; in 1878 the aggregate strength was equal to 570,000 horse-power.

The leading position is held by the **Metal Industries**, which, though they did not find their new home in Belgium until the present century, already compete with England.

In 1819 the brothers John and James Cockerill founded the Etablissement Seraing, in the midst of the mining district near Liège, and thus placed iron-working at the head of all the industries of Belgium.[1]

The novel undertaking was supported just at the critical time by the construction of railways.

Many other similar establishments were founded, and are now to be met with all over Belgium, though the chief centres of the iron industry are Liège and Charleroi.

These works employ about 100,000 hands, and produce machinery, artillery, weapons,[1] rails, nails, iron-plates, wire, edge-tools of all kinds, and copper goods.

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[1] The Etablissement Cockerill, now a joint-stock company, employing nearly 10,000 hands, is one of the largest establishments of the kind in the world.

The *Glass* manufacture of Belgium is very important. For window-glass and mirrors this country takes a commanding position in the markets of the world, and even in the manufacture of glass-vessels (bottles, etc.) offers a keen competition to its rivals. Glass is exported to the value of £1,200,000. The chief seats of the industry are Mons, Namur, Charleroi, and Liège.

Textile Industries, already extensive, are steadily increasing in importance.

The *Cotton Industry,* introduced in 1804, centres at Ghent, the Belgian Manchester, and is also carried on at Tournai, Lockeren (E. Flanders), St. Nicolaus, and Brussels (Nivelles). About 800,000 spindles are employed, yielding annually about 30,800,000 lbs. of yarn. The total annual value of cotton-cloth manufactured is £3,120,000, of which a large proportion is exported.

Woollen Manufactures are carried on chiefly at Verviers, Liège, and Limburg. Cloth and all other kinds of woollen fabrics are produced to a total annual value of between £4,000,000 and £6,000,000.

Carpets are made principally at Tournai.

The *Linen* manufacture is the oldest in Belgium, having been early fostered by the extensive flax-fields of Flanders. It employs about 300,000 spindles, 5000 power-looms, and 300,000 workmen. The best linen is made at Courtrai. Thread is manufactured at Alost.

Belgian *Lace,* whether pillow-lace (Fr. *dentelles*) or made by needle (Fr. *points,* point-lace), excels all other varieties. The most renowned kinds are "Brussels lace," the manufacture of which employs 10,000 hands, and "Mechlin lace" (*points de Malines*); but Louvain, Grammont, and Bruges are also engaged in this industry. About 130,000 women are employed in the manufacture of pillow-lace; and the total value of lace produced is about £2,000,000, of which one-half is received by the workers as wages.

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[1] Belgium is not only quite independent of foreign countries for its supply of machinery and weapons, but it also exports these goods in yearly increasing quantities.

Other Industries.—Belgium is distanced by few other countries in the manufacture of *Paper*, which is exported to the value of £600,000. The largest paper-mills are at Liège and Brussels.

Belgian *Leather* is in high repute. Limburg is the chief centre of the leather-industry, which is also carried on at Ghent, Liège, Namur, and Bruges.

Beer and *Spirits* are produced at Ghent and numerous other places.

There are *Salt Works* in Hainault and Antwerp.

The latter town also contains *Sugar Refineries* for cane-sugar. *Beetroot Sugar* (nearly 2,000,000 cwts.) is manufactured in 160 factories.

The *Fancy Articles* of all kinds made in Brussels are distinguished for their tastefulness.

The model workshops and the permanent industrial exhibition of the Musée Commercial at Brussels, exercise a very beneficial effect upon the manufactures of the country.

TRADE AND COMMERCE.

The **Domestic Trade** is encouraged by a most excellent and complete system of communication. No other country in Europe has so many railways, roads, and canals in proportion to its size; and all the different means of communication have been equally developed.

Belgium has 430 miles of navigable rivers, 500 miles of canals, upwards of 5000 miles of good roads, and nearly 3000 miles of railways, *i.e.* proportionately more than any other country in Europe.

The chief railway-centres are Brussels, Ghent, and Mechlin, whence lines diverge to all points of the compass.

In 1892 there were 821 post-offices, through which 153,000,000 letters and post-cards and 96,000,000 newspapers were transmitted.

In the same year there were 4300 miles of telegraph-lines, with 20,500 miles of wires; and 962 telegraph-stations which transmitted 8,445,000 messages.

Two-thirds of the **Foreign Trade** is carried on overland, as Belgium has 920 miles of land-boundary to 45 miles of coast. The latter, moreover, is very inhospitable, and the maritime trade of Belgium was, until modern times, seriously hampered by the jealousy of England and Holland. The revival of the trade of Belgium dates from the days of Napoleon I., who declared the navigation of the Scheldt free, and in his efforts to transform Antwerp into a continental London, assisted Belgium to secure some of the trade of the countries lying to the south of it (Germany, France, Switzerland, and Austria).

Belgium's most important commercial neighbours are France and Germany. With these trade is carried on partly by means of the Meuse and Scheldt, both of which rise in France and enter the sea in Holland, partly by means of canals,[1] but chiefly by railways.

The maritime trade of Belgium centres almost wholly in *Antwerp*, on the right bank of the Scheldt, which at high tide has a depth of nearly 40 ft., admitting vessels of the greatest draught. From the days of Napoleon down to the present time, the harbour of Antwerp has undergone numerous extensive improvements, so that it has already distanced both Amsterdam and Rotterdam, and rivals the ports of Havre and Hamburg. Antwerp, indeed, is one of the leading harbours of Europe, and an important emigration port. In 1891 4461 sea-going ships, with a total burden of nearly 5,000,000 tons, entered the port.

The leading articles of the commerce of Antwerp are *Grain*, from North America, Russia, Roumania, and the Baltic; *Hides* (1,000,000); *Wool*, from South America, and *Coffee*.

Antwerp has regular steam communication with London, Hull, Newcastle, and Liverpool; Rotterdam; Germany; Havre,

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[1] The most important of these international canals is that from Mons to Condé in France. The canal from Ghent to the estuary of the Scheldt is the chief canal between Belgium and Holland, as sea-going ships can ascend it all the way to Ghent; next to it is the canal from Liège to Maastricht and Rotterdam.

Bordeaux, Marseilles; the Levant; New York (Red Star Line); Rio Grande, and Buenos Ayres.

Ostend, an artificial port, is connected by means of railways and canals with all the more important points in Belgium; through it passes the chief traffic between Belgium and England, and it has also communication with France, Hamburg, Norway, and Russia.

Nieuwport and Ghent, the other Belgian ports, are far behind Ostend and Antwerp in importance.

For the reasons given above Belgium does not possess any great mercantile fleet of its own. In 1891 it possessed 55 ships, 47 of which were steamers, with a total burden of 73,000 tons. Of the 7395 sea-going vessels, with a burden of over 6,000,000 tons, which entered Belgian ports in 1891, 3954 vessels, of 2,257,348 tons, were from England.

The chief *Commercial Towns* are Antwerp, Ostend, Ghent, Nieuwport, Brussels, Liège, Mons, and Tournai.

The extensive trade of Belgium is much fostered and encouraged by the numerous commercial companies engaged in mining, manufactures, railway enterprises, and navigation. There are also large forwarding agencies; exchanges in Brussels and Antwerp (the oldest in Europe), and numerous banks, including La Banque de Belgique, founded in 1835, and insurance offices, most of which have their headquarters in Brussels or Antwerp.

The *Customs* are light, and liberally administered.

Commercial agents and consuls represent Belgian interests in all the leading trading centres of the globe.

EXPORTS AND IMPORTS.

The chief *Exports* are cattle, cheese, butter, flax, *coals*, *iron*, and *iron goods* (especially rails), nails, machinery, weapons, beetroot sugar, linen, cotton, and woollen goods, *lace*, *leather*, etc. In 1891 the total value of the exports was £60,000,000.

The chief *Imports* are colonial produce, cane-sugar, southern fruits, grain, wine, tobacco, timber, cotton and wool, silk, chemicals, copper, salt, petroleum, herrings, dried fish, hides, skins and furs, etc. The total value of imports in 1891 was £72,000,000.

The transit trade represented in 1891 a value of £53,800,000, most of which was derived from the German Customs Union, for which Antwerp is the natural harbour.

DENMARK.

SITUATION AND POPULATION.

The kingdom of Denmark lies between 54° 34′ and 57° 44′ N. lat., and 12° 34′ and 8° 4′ E. long. It embraces the northern half of the peninsula of Jutland and a group of islands, of which Zealand, Fünen, Langeland, Laaland, Falster, Möen, and Bornholm are the chief.

It is bounded by the North Sea, Skagerack, Cattegat, the Sound, the Baltic Sea, and Prussia. It has only 50 miles of land boundary, and may therefore practically be regarded as an island kingdom.

Denmark has an area of 13,784 square miles, and 2,000,000 inhab. of the Germanic stock, nearly all of whom are Lutherans. There are 131 inhabitants per square mile. The national language is Danish, but the educated classes also speak English, French, or German. The Danes are a sturdy race, distinguished for industry, endurance, and personal courage. Education has penetrated to all strata of the population—even in Iceland all the peasants can read and write—and it is maintained by excellent public schools. Copenhagen is the centre of the intellectual life of the country.

PHYSICAL FEATURES AND CLIMATE.

Denmark is entirely lowland. A slight elevation of the surface, the Jute ridge, runs towards the north along the east coast of Jutland, attaining in Himmelbjerget a height of 590 feet; the west coast requires to be protected by dykes at many points. The islands in the Baltic are, with the exception of Bornholm, flat and fertile, but in Jutland large tracts of moor and sand are met with.

The coast is much indented with fjords, like those of Scandinavia. In 1825 an opening was made from the Lymfjord to the Baltic Sea.

The climate is oceanic, and is mild for its latitude. Copenhagen has a mean temperature of 30·2° F. in Jan., and 60·8° F. in July, with a rainfall of 23·6 inches. Terrible storms often lash the coasts of Denmark.

RIVERS.

The rivers of Denmark do not of course reach any great size. The largest is the Goudenaa, 90 miles long. The other streams, especially those on the islands, are mere brooks. The principal artificial water-way is the Agger Canal, 107 miles long, which intersects the north of Jutland from the Lymfjord, thus connecting the North Sea with the Baltic.

There are a few coast-lakes or lagoons on the west coast of Jutland.

DIVISIONS AND CHIEF TOWNS.

Denmark is divided into 7 "stifts," of which 3 are on the islands and 4 in Jutland.

1. *Stift Zealand.*

a. Island of Zealand.—Copenhagen (313,000, or including Frederiksberg and other suburbs, 375,000 inhab. *i.e.* more than 12% of the entire population of Denmark), the capital and residence of the court. Island of Amager. Helsingör (Elsinore) with Kronburg (a small fortress commanding the Sound), Roeskilde, Korsör. Zealand is the political and economic focus of Denmark. *b. Island of Möen. c. Island of Samsö.*

2. *Stift Fünen.*

a. Island of Fünen, Odense (30,000 inhab.). *b. Island of Langeland; Island of Arrö.*

3. *Stift Laaland.*

a. Island of Laaland with Nysted. *b. Island of Falster* with Nykjöbing.

The following four stifts are in Jutland:—

4. *Aalborg,* Aalborg (20,000 inhab.). Frederikshavn. Skagen (Island of Läsö).

5. *Viborg,* Viborg.
6. *Aarhuus,* Aarhuus (33,000 inhab.). Island of Anholt.
7. *Ribe,* Ribe, Veile, Fredericia. Island of Fanö.

NATURAL PRODUCTIONS.

1. **Agriculture.**—*Agriculture* and *Cattle-breeding* are the principal resources of this very prosperous people.

Two-thirds of the land is fertile and adapted for tillage. Grain (rye, barley, and oats), garden stuff, and oil plants are the chief crops, some of which are regularly exported. Hemp, potatoes, tobacco, and fruit are grown, but do not cover the home consumption; wood is also deficient in quantity, but to a considerable extent it is replaced by peat. The Danish beech forests are, however, widely celebrated.

2. **Animals.**—*Stock-farming* is the special sphere of the Danish farmer. Denmark contains more cattle (1,300,000) in proportion to its size than any other country in Europe, and next to Russia, the most horses (350,000), sheep (1,800,000), and pigs (500,000). The industry and skill of the inhabitants are supplemented by the rich pasture lands. The export of butter to Great Britain is great and increasing, having risen from £767,000 in 1870 to £4,865,842 in 1891.

Fishing is not prosecuted with vigour, and large quantities of salt fish (£220,000) are annually imported.

3. **Minerals.**—Denmark is poor in *Minerals.* Metals are entirely wanting. Bornholm alone has a rocky foundation and yields sandstone, marble, and a little coal. There is neither mining nor smelting, in the proper sense of the terms. Clay and lime are found in Jutland, and chalk in Möen.

Peat or turf abounds all over Jutland; and large quantities of amber are picked up on the west coast.

MANUFACTURES.

As four-fifths of the inhabitants are engaged in agriculture and cattle-breeding, it naturally follows that Denmark is no manufacturing country. The only extensive industrial establishments met with are those which are directly supported by the agrarian and sea-faring interests, *e.g.* mills, breweries, distilleries, sugar refineries, and factories for sail-cloth, leather, and tobacco. The manufacturing industry is mainly confined to Copenhagen, where machinery, porcelain, etc. is also produced. Odense, with cloth factories, is the second industrial town. Nearly all the other trades and handicrafts are of course carried on, but only on a limited scale.

On the whole, Denmark supplies its own wants but poorly; iron, steel, glass, textile fabrics, and many other articles must be imported.

TRADE AND COMMERCE.

Its favourable position between the North Sea and the Baltic, and its numerous bays, straits, and islands, not only foster the trade of Denmark, but also give that country a specially high strategic importance. Copenhagen, situated on the deep Amager Sound, is at once the key of the Baltic, and the natural emporium for the trade with Sweden; and thus the greater half of the trade of Denmark is concentrated in this prosperous seaport. It owns a fleet of 400 vessels, and it is annually visited by shipping with an aggregate burden of 2,300,000 tons. All the leading banks, financial and insurance companies, and commission and forwarding agencies in Denmark have their headquarters in Copenhagen.

Next to the capital, but very far behind it in importance, are the towns of Helsingör, Frederikshavn, Odense, Korsör, and Aarhuus.

Almost the entire foreign trade of Denmark is maritime, and is carried on with England, Germany (Hamburg and Stettin), Sweden, and Norway. Less important is the trade with the Danish West Indies, Holland, Russia, and Iceland.

The Danish mercantile navy consists (1891) of 3607 vessels, 353 of which are steamers, with an aggregate burden of 311,000 tons.

The gross amount of tonnage annually entering the Danish ports amounts to about 2,000,000 tons.

The land communications are also in excellent condition. Denmark has about 1250 miles of *Railways*, and 3675 miles of *Telegraph-lines*, besides numerous cables. The post-office carries over 50,000,000 letters and post-cards annually.

IMPORTS AND EXPORTS.

The *Exports* consist mainly of agricultural produce, cattle, and unmanufactured articles, *e.g.* horses, cattle, pigs, butter, hides, horns, grain, flour, oil-cake, and spirits. The annual value has recently been as high as £13,500,000.

The *Imports* include colonial produce, southern fruits, wine, tobacco, cotton, hemp, flax, silk, textile fabrics of all kinds, salt, coal, petroleum, clay, metals, iron and steel goods, machinery, watches, implements, fancy articles, etc. The annual value is £16,000,000.

DANISH DEPENDENCIES AND COLONIES.

1. **Faroe Islands.**—These are a group of volcanic islands, with an aggregate area of 520 square miles, lying in the Atlantic Ocean in 62° N. lat. Though the frequent storms prevent the growth of trees, the islands abound in sheep and sea-fowl, especially eider-ducks. The capital is Thorshavn on Strömöe. The islanders, 11,000 in number, are sturdy sailors, and are chiefly occupied in fishing. Woollen stuffs, stockings, and worsted gloves are also produced.

2. **Iceland,** lying between 63° and 66° N. lat., has an area of 40,000 square miles, and a population of 72,000.[1] Only about 16,000 square miles, on the coast, are habitable; the remainder of the island is occupied by rugged volcanic plateaus and mountain ranges of an inhospitable, bleak, and barren character. Mighty volcanoes, some of which are still active (Oräfa, 6560 ft., Hecla, 5120 ft.), have covered a great part of the island with lava-fields, which are in many cases now occupied by enormous glaciers (Vatna-Jökul, 1560 sq. m.). The *Geysers* of Iceland are well known.

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[1] The Icelanders who emigrated hither at the close of the 9th, and still more at the close of the 10th cent., are of Norwegian stock, mingled with Danes and Swedes.

The precipitous southern and western coasts are washed by the Gulf-stream, the north coast by the Polar-currents, so that the last is much the coldest. These streams carry drift timber to the island, which is now destitute of trees. The mean annual temperature of Rykjavik is 41° F.

The leading natural productions are:

(1) Turnips, cabbages, potatoes, berries, Iceland moss, and good grass on the extensive meadows, especially beside the rivers. Grain is not grown.

(2) Horses, cattle, sheep (700,000), eider-ducks, and abundance of fish.

(3) Lava, pumice-stone, sulphur, alum, obsidians, lignite, peat, and salt.

The capital is *Rykjavik* (1300 inhab.), the seat of the Lutheran bishop, and of the supreme law-courts, with an observatory, library, and drug-store. *Aküreyri*, in the N., consists merely of a few houses. Some of the merchants of Copenhagen maintain factories in these two spots, which carry on the entire foreign trade of the island.

Curiously enough the value of the *Exports* (wool, eider-down and feathers, minerals) exceeds that of the *Imports* (cereals, tobacco, spirits, coffee, tea, coals, and manufactured articles). Danish mail-steamers maintain regular communication with Iceland.

3. **Greenland.**—The Danish settlements in *Greenland* (742,000 sq. m.) consist of small trading-stations on those fjords that are free from glaciers. Among these are Godhavn, Christianshaab, Julianshaab, Frederikshaab, and Upernivik; the last the most northerly point in America permanently inhabited by white people. There are scarcely 300 Europeans among the 10,000 inhabitants under the sway of Denmark; all the rest are Esquimaux. Fishing and hunting are the chief employments, for European plants and animals attain only a most stunted growth in this climate.

With the exception of the whale-fishery, the trade is a monopoly of the Danish government, which maintains regular communication with Greenland in summer.

Greenland exports whale and seal blubber, whalebone, hides, furs, and eider-down; and imports food-stuffs and manufactured articles, including articles for barter with the Esquimaux. The minerals of the country are not exploited.

4. The **Danish West Indies** include the islands of *St. Croix*, *St. John*, and *St. Thomas* (140 sq. miles, with 54,000 inhab.), the chief product of which is sugar. The harbour of St. Thomas is an important port for the transit-trade from the West Indies.

SWEDEN AND NORWAY.

SITUATION AND BOUNDARIES.

The kingdoms of Sweden and Norway occupy the Scandinavian Peninsula, the largest peninsula in Europe, lying between 55° and 71° N. lat., and between 5° and 32° E. long. Scandinavia is bounded by the Arctic Ocean, the Atlantic Ocean (Skagerak, Cattegat, Baltic Sea, and Gulf of Bothnia), and Russia.

The united kingdoms have an area of 293,848 square miles, of which Sweden occupies 170,979 square miles, with a population of 4,700,000, and Norway 122,869 square miles, with a population of 2,000,000.

PHYSICAL FEATURES.

The Scandinavian peninsula is predominantly mountainous. Mountains extend from the extreme north-east of Norway to its southern extremity, forming the most massive range in Europe, and covering an area (185,000 sq. m.), equal to twice that occupied by the Alps. The Scandinavian mountain-system does not exhibit the abundantly articulated formation of the Alps; it consists chiefly of a mighty mass of solid rock, rising with astonishing steepness from the sea on the west, but descending towards the east in gradual terraces, leaving room for a narrow coast plain. The range increases in height from north to south, as well as from east to west. Europe offers no parallel to this massive wall of rock, uninterrupted by peaks or ridges. The watersheds are formed by vast tablelands, called *Fjelder*, on which isolated mountains rise to a relatively slight elevation. The narrow valleys appear almost like cracks or crevasses in the solid mountain-mass. In the north the Fjelder are only about 1000 ft. above the sea-level; but the Dovre-Fjeld is 3250 ft., and the Lang-Fjeld 4800 ft. above the sea. None of the mountains rise to 9000 ft. Sulitjelma is 5320 ft., Snehættan 7770 ft., and Galdhöpig 8400 ft.

Enormous *Glaciers* (2700 sq. m.) cover a great part of this range, stretching down almost to the sea at many points. Among these are the Buarbræ and the Jostedalbræ, the largest glaciers in Europe.

The only *Plain* of any size belongs to Sweden; it stretches along the east coast to the southern extremity of that country, and includes the fertile plains of Göta, with their numerous erratic blocks.

Few parts of the world exhibit so irregular and torn a *Coast-line* as Norway, where innumerable bays and fjords admit the sea far into the land. These rifts in the steep cliffs of the coast, sometimes 4500 ft. high, stretching for miles into the land, with their waterfalls, glaciers, perpendicular walls, and strange vegetation, form the most celebrated landscapes in Norway. The best known are Christiania-Fjord, Hardanger-Fjord, Sogne-Fjord, Molde-Fjord, Throndhjem-Fjord, Alten-Fjord, and Varanger-Fjord. Thousands of small rocky islets and reefs (Sheers, Skargaard) lie clustered about the entrances of these fjords; the principal group is that of the *Lofoden Islands.*

Sweden, which embraces more of the lower lying portion of the peninsula, has a somewhat similar, but not quite so irregular coast-line.

RIVERS, LAKES, AND CANALS.

The Alpine character and heavy rainfall of Scandinavia lead us naturally to expect an abundant water-supply. Nor are we deceived, though the majority of the numerous streams have short courses. Many of the western streams fall directly into the sea in the shape of mighty waterfalls, and though the rivers flowing to the south and east have slightly longer courses, they also abound in cataracts.

Owing to their rapid fall the Scandinavian rivers are well adapted to supply motive-power for factories, but are ill-suited for navigation. The chief rivers are the Tornea Elf[1] (forming the boundary with Russia), Angerman Elf, and Dal Elf, all three flowing into the Baltic; the Klara Elf entering Lake Venern; Motala Elf, the discharge of Lake Vettern; the Göta Elf, the discharge of Lake Venern; and the Glommen Elf, entering the Christiania-Fjord.

Many of the Scandinavian *Lakes* are large and beautiful, and distinguished by the clearness of their water and their picturesque surroundings. The principal lakes are in Sweden, viz. Lake Venern, Lake Vettern, Lake Mälaren, and Lake Hjelmaren; Lake Mjösen, to the north of Christiania, is the chief lake in Norway.

The principal *Canals* are those of Trollhättan, Göta, and Dalsland, by which extensive rapids are avoided, the great Swedish lakes united with the North Sea and the Baltic, and South Sweden provided with an excellent system of waterways, 2500 miles long.

CLIMATE.

The climate of Scandinavia varies very much, according as we turn our attention to the west or to the east, to the coast or to the interior.

The temperature of the west coast is raised by the Gulf-stream, flowing from the torrid zone, to such an extent that no other country at so high a latitude enjoys so mild a climate. The sea on this coast is never frozen, and the difference between summer and winter is not so strongly marked as in the centre and on the east coast of the peninsula, where these seasons succeed each other almost without any interval, and exhibit very great differences of temperature. Ship-loads of fruit are brought from Throndhjem-Fjord (63° N. lat), and grain is cultivated up to 70° N. lat.

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[1] *Elf* means a large stream.

The annual mean temperature at Bergen is 44·6° F., at Throndhjem 42·8° F., and at the North Cape 35·6° F., while the Fjord of Christiania shows a summer temperature of 91·4° F., but freezes every winter. At Stockholm the mean temperature in January is 24·8° F., in July 60·8° F. On the Fjelder quicksilver often freezes.

Part of Scandinavia lies, as is well known, within the Arctic Circle, in the region of the Polar night and of the midnight sun. The length of the days varies very much all over the country.

The rainfall in the west (78 to 102 in.) is much greater than in the east (14 to 20 in.). In the north the snow-line descends to 2100 ft. above the sea-level; in some places, indeed, the glaciers stretch almost to the sea.

The fact that Sweden and Norway have a lower rate of mortality than any other European country speaks for the suitability of this severe climate for human beings.

POPULATION.

The simple and isolated conditions which Scandinavia exhibits in its geography, are repeated in its ethnography.

Almost all the inhabitants of Scandinavia[1] belong to the Germanic stock, which is here found in greater purity than in any other country, and nearly all are Lutheran Protestants. About 50,000 Lapps and Finns dwell in the far north and among the wooded mountains.

The average *Density* of the population is 25·6 per square mile; but this proportion rapidly diminishes as we approach the north. In the south of Sweden the proportion is 179 per square mile, in the middle it is 51, and in the far north 2·5.

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[1] The Scandinavians are not only divided into *Norwegians* and *Swedes;* there are also strongly-marked local differences. They are a handsome, intelligent, brave, and energetic race, with a full share of northern sturdiness and fidelity. They are distinguished by an inexhaustible and deep and clear feeling for nature, revealing itself in their delight in and passionate love of nature. Their religious and moral sentiments are sincere and deep, their marriages are happy, and their domestic life peaceful; and they are saturated with the love of country, even though they are forced to wring their subsistence from it in the sweat of their brows.

The south of Norway has 102·4 inhabitants per square mile, the north only 1·2. About 85% of the people dwell in villages and hamlets; 15% in towns; and the predominance of the influence of the peasantry in public affairs corresponds to this distribution.

Education throughout Scandinavia stands on a high level. It is under the control of the government, which provides instruction in reading and writing for the peasants. In scattered districts peripatetic schoolmasters or the parents of the children conduct the education. The secondary schools and the universities are modelled on the German system. Numerous special schools of agriculture, forestry, weaving, mining, and navigation have lately been opened, and have already borne good fruit. The management of the forests, for example, has been much improved.

Seminaries for the training of schoolmasters for the Lapps and Finns exist at Throndhjem and Hernösand.

In Sweden the literary language is Swedish; in Norway it is Danish. The knowledge of other languages, such as English, German, and French, is very wide-spread.

Emigration from Scandinavia has assumed very large proportions, and within the last 25 years upwards of half a million persons have left the country, chiefly for the United States.

The historical development of the Swedish and Norwegians has lain along very different paths, and the two peoples cherish very different political views. In Norway there is no nobility, and a democratic spirit prevails; in Sweden class-distinctions play a very important rôle. As the two kingdoms differ widely also in their productions, means of communication, and commercial conditions, they are best treated separately for the purposes of this book.

DIVISIONS AND CHIEF TOWNS.

The Scandinavian Peninsula includes the two kingdoms of Sweden and Norway, which have been united under one king by personal union since 1814; but each still retains its own peculiar distinct constitution and government. The standard of coinage and representation in foreign courts are the only departments which are common to the two countries.

I. Sweden.

Sweden is divided into twenty-five "län" (districts). Historically it is divided into three parts, viz.:—

1. **Svealand,** in the middle of the country, with Stockholm (223,000 inhab.) at the outlet of Lake Mälaren; Eskilstuna, Upsala, Vestirås, Sala, Fahlun, Danemora.

2. **Götaland** (in the south), Norrköping (28,000 inhab.), in Östergötaland; Calmar; Karlskrona (19,000 inhab.); the islands of Öland and Gotland, with Wisby.—In Skane, on the south coast, Malmö (45,000 inhab.); Helsingborg; Christiansstad.—In Vestergötland, Göteborg or Gothenburg (93,000 inhab.).

3. **Norrland** (the most northern part of the country), with Gefle (21,000 inhab.); Sundsvall, Hernösand. Lapland contains only small villages.

II. Norway.

Norway is divided politically into twenty "amts," and ecclesiastically into six "stifts."

1. **Aggerhuus,** with Christiania (130,000 inhab.), Drammen, Tönsberg, Frederiksstadt.
2. **Hamar.**—Hamar on the Mjösen.
3. **Christianssand.**—Christianssand, Arendal, Stavanger.
4. **Bergen.**—Bergen (47,000 inhab.).
5. **Throndhjem.**—Throndhjem (24,000 inhab.), Röraas.
6. **Tromsö** or Nordland.—Tromsö; Norwegian Finmarken, with Hammerfest, the most northerly town in the world; the Island of Magerö, with the North Cape; the Lofoden Islands.

I.—NORWAY.

NATURAL PRODUCTIONS.

1. **Vegetables.**—The oceanic nature of the climate, and still more the influence of the Gulf-stream, which is called in Norway the North Atlantic Surface Current, allow of the spread of plants in Norway which are nowhere else found at the same

latitudes. Oats flourish as far north as 64°, rye at 67°, and barley even at 70°, where the never-setting sun ripens it in six weeks. But as the total area of arable land under cultivation in Norway is only about 1172 square miles, the annual grain-harvest (1,718,000 qrs.) satisfies only about one-half of the domestic consumption; and the same is true of the yield of potatoes (19,250,000 bushels), flax, tobacco, and fruit, which ripens to the north of Throndhjem.

The most important botanical resource of Norway lies in its *Forests*, which cover 25% of its area, and forestry in some measure takes the place of agriculture in the national economy.

Owing to its slow growth on the rocky soil, the timber of Norway is peculiarly close-grained and tough. A number of the forests belong to the state and are administered as state property. This country is one of the leading timber-producing countries of the world, though inferior in this respect to Sweden. Most of the timber is sent to France and England in the form of planks.

2. **Animals.**—Sufficient *Cattle* and *Sheep* are reared to meet home requirements, but only a small quantity of wool is exported. Cattle-keeping is practised in the same manner as in Switzerland; the herds (1,000,000 head) pasture on the fjelder in summer (sätter = summer farms), and spend the winter under shelter. The native breed of small horses is noted for its endurance; but larger horses are imported. Norway contains 1,700,000 sheep.

The most valuable animal product, however, has been derived for many ages not from the land but from the sea. The *Cod* and *Herring Fisheries* of Norway yield an annual value of nearly £940,000, while they provide the chief food of the inhabitants, without which, indeed, many thousands of the dwellers on the coast could not exist.

The chief station in the world for cod-fishing is in the Lofoden Islands (40 to 50 million fish); and the less valuable herring-fishery is carried on off the coast between Cape Stadt and Stavanger (in good seasons 1,375,000 bushels).

The fresh-water streams and lakes also abound in salmon and other fish, so that even on the tables of the poorest families fish appears daily.

Fish and *Timber* are the chief resources of Norway. The total value of the fisheries is between £1,400,000 and £1,900,000.

3. **Minerals.**—*Mining* in Norway is rather declining than advancing. The rich deposits of iron, copper, silver, nickel, etc., cannot, unfortunately, be remuneratively worked, as coal, the mainstay of the modern mining industry, is wanting. The ore, which must therefore be exported in its raw state, represents an annual value of £166,000 to £277,000.

MANUFACTURES.

Norway cannot take any very prominent place as a manufacturing country, since the two primary conditions, viz. coal and a dense population, are both wanting. The unusually abundant water-power, though exceedingly valuable for all manufactures, is chiefly used in the wood industry, including the manufacture of parquet-work, wooden utensils, matches, and, above all, pulp for paper. Among the other leading industries are ship-building, preparation of cod-liver oil and of fish-guano, brewing, and distilling. Beer and spirits are produced in sufficient quantity to satisfy the domestic demand and to be exported in increasing quantities. The horse-shoe nail factories of Christiania exported in 1891 goods of their manufacture to the value of £152,000. Several thousand hands are employed in the cotton and woollen factories, which are fostered, however, by a high protective duty.

In Norway there are 3300 industrial establishments, in which only 42,000 work-people are employed.

Both in Norway and in Sweden the domestic industries are important. In the hamlets and farms lying scattered at long distances from each other, the peasant is compelled by circumstances to be his own universal mechanic.

TRADE AND COMMERCE.

The focus of Norwegian trade and commerce is the sea. Most of the inhabitants dwell on the coast; of the 61 towns, only 7 lie inland. Thus it is that the chief domestic intercourse of the country is principally carried on by *Coasting Vessels.* Steamboats ply regularly into the remotest arms of the fjords that are free from ice. The steamers which ply round the North Cape to Vadsö, form the most northerly mail-packet service in the world.

The *Railways* (1000 miles), partly narrow guage, play a subordinate part. They unite Christiania and the ice-free Throndhjem with Sweden.

The Norwegian *Post-office* in 1891 transmitted 28,000,000 letters and 20,000,000 newspapers. *Telegraph-lines* (5600 miles; 324 stations) extend to the extreme north of the country, though the system is not very extensively developed.

The *Roads*, even on the uninhabited fjelder, are excellent, for in regard to the state of its means of communication Norway might be taken as a model country.

The *Foreign Trade* of the Norwegians embraces, so to speak, the whole earth. Their ships are met with in all zones, so that they are justly called "the universal sea-carriers."

Norway has more sailors in proportion to its population (viz. 60,000 out of barely 2 millions) than any other country in the world; and the Norwegian merchant fleet occupies the second position among those of Europe. In 1891 Norway owned 7432 ships, with a burden of 1,705,000 tons, of which 672 ships, of 203,000 tons, were steamers. In the same year Norwegian ports were visited by 12,386 ships, with an aggregate burden of 2,654,000 tons, three-fourths of which were under the Norwegian flag

The chief commercial centres in Norway are as follows:—

Christiania, on the Christiania-Fjord, forms the outlet for the three chief inland valleys, and so acts as the emporium for a great part of the country. It also lies not far from Sweden, and from an early period it has carried on an active traffic with Copenhagen and the Baltic Sea. In the present century the formerly unimportant town has risen to be the most prosperous in the kingdom; about 600,000 tons of shipping visit it annually, and 17% of the whole foreign trade passes through its port.

Bergen, an old Hanse town, between the Sogne-Fjord and the Hardanger-Fjord, which stretch deep into the land, is, perhaps, the centre of the fish-export. About 300,000 tons of shipping, and 10% of the foreign trade, pass through its port annually.

Fredrikstad. Drammen.

Throndhjem or *Drontheim*, where the kings are crowned, lies near the entrance of several important valleys, whose wants it supplies, while it exports fish, etc., and imports manufactured goods. Its importance has risen considerably since the construction of the railway to Christiania and Gefle, by which it has become the port for part of Sweden.

Tromsö and *Hammerfest*, the most northerly towns in the world are the leading ports for the extreme north of the country, where the trade also centres in the yield of the fisheries.

EXPORTS AND IMPORTS.

The leading *Exports* of Norway are timber and fish (together 70%), train oil, nails, etc. The value in 1891 was £7,243,000.

The leading *Imports* are cereals, flour, manufactured goods (40%), coal, salt, petroleum, colonial produce, and liquors. The value in 1891 was £12,390,000.

The principal countries with which Norway carries on trade are Great Britain, Germany, Sweden, Denmark, Russia, and France.

II.—SWEDEN.

NATURAL PRODUCTIONS.

1. **Vegetables.**—The kingdom of Sweden occupies, as we have seen, the eastern part of the Scandinavian Peninsula. It is much flatter than Norway, especially in the south. Though the climate is much more "continental" than that of Norway, and though nearly 50% of the land is still unproductive, yet 6% of the soil is arable, 4·5% is pasturage, and 40% under

wood, so that three-fourths of the inhabitants support themselves by agriculture.

Sweden produces far more cereals than Norway, so much, indeed, that it carries on an export grain trade, chiefly in oats, though, on the other hand, it imports large quantities of rye and rye meal, as also wheat flour. About one-half the total grain produced is oats. Potatoes, flax, tobacco, and even hops, are cultivated with success.

2. **Animals.**—*Live Stock* also is exported. Sweden contains 500,000 horses, over 2,000,000 cattle, 1,700,000 sheep, and 500,000 swine. The Laplanders, in the north, possess 200,000 tame reindeer.

Government has done much to improve the agriculture, and to encourage the intelligent development of dairy-farming (butter, cheese), by the foundation of schools of agriculture and the appointment of peripatetic teachers.

The *Fisheries* of Sweden play quite a subordinate part, and do not even suffice to supply the domestic wants of the country. The *Timber* trade, on the other hand, is of great importance. About 20% of the forests, including all the oak forests, belongs to government and public bodies; 80% belongs to private owners. The annual export, which centres chiefly in the Gulf of Bothnia, amounts in value to between £3,000,000 and £7,000,000. Swedish timber is sent all over the world, to be used for masts, beams, flooring, barrel staves, rafters, etc.

3. **Minerals.**—The *Mining Industry* of Sweden competes with increasing difficulty against the powerful rivalry of other countries, but it is more important than that of Norway. Sweden is also poorly supplied with coal (150,000 tons raised annually), so that its foundries and furnaces are forced to use charcoal, a fact which exposes them to a steady decline.

The most important and most valuable mineral product of the country is *Iron*, of which 1,000,000 tons are raised annually. The chief of the mines are at Dannemora and to the west and north-west of Lake Mälaren. Swedish iron is considered the best in the world, as it is almost entirely free of phosphorus (·05% and less).

The copper industry of Fahlun has long been widely renowned, and the production of silver, nickel, and lead are also of some importance. Over 35,000 persons are engaged in mining.

MANUFACTURES.

In spite of all the endeavours of government, it has not been possible to render either Sweden or Norway industrially independent of other countries. Coal, population, and capital are wanting in both. Only a few industries are actually firmly established, but these, aided by the cheap water-power and the intelligence of the workmen, turn out excellent work.

In the first place stands the *Iron Industry*, and all its branches. The most famous iron-works are near Eskilstuna, and the chief machine-works are at Motala. Swedish bar-iron (150,000 tons exported), steel-goods, blades, armour-plates, cables, nails, and knives are highly esteemed.

In the second place comes the *Wood Industry* in all its branches. Paper is manufactured from wood at Gothenburg for export. The excellent *Matches* of Jönköping are everywhere famous. This factory employs 1500 hands, and annually exports about 300,000 cwts. of matches to all quarters of the globe.

Some beer and spirits (Swedish punch) are also exported, besides Swedish gloves, and stoves and tiles. The Swedish manufacture of linen, which is carried on as a domestic industry, is the only branch of the textile industry in which the home-production meets the domestic demand. Woollen and cotton factories exist at Norrköping, Stockholm, and Gothenburg, but do not nearly meet the home demand for these goods.

Sweden exports coarse glass-ware to Russia, but must itself import the finer sorts.

Sweden has in all about 3000 industrial establishments, employing about 60,000 work-people.

TRADE AND COMMERCE.

Nothwithstanding the natural disadvantages of their land, the Swedish, like the Norwegians, have developed their commerce in a most remarkable way.

The south of Sweden possesses in the canal-system already mentioned a splendid artificially-constructed waterway. Railways (about 5200 miles) connect the chief towns with each other and with Norway; and upwards of 31,000 miles of roads, including 12,400 miles of "Royal Roads," facilitate communication even with the extreme north. The country has 5300 miles of *Telegraph-lines*, with 400 telegraph-offices and 1862 post-offices.

Swedish trade, however, like that of Norway, is predominantly maritime. The Swedish mercantile fleet numbers 3874 ships, with a burden of 511,000 tons, including 1021 steamers with 141,000 tons. Including the vessels engaged in the active coasting-trade, 31,000 ships, of 5,500,000 tons burden, entered Swedish ports in 1890.

The small towns and villages on the Swedish coast, up to the Russian frontier, have regular communication with each other —often interrupted by ice in winter—by means of local lines of steamers, owning together 715 vessels.

The commercial centres of Sweden are also seaports. *Stockholm*, at the outlet of the Lake Mälaren with the Baltic Sea, is the chief Baltic port of Sweden. It is entered and cleared annually by about 1,300,000 tons of shipping, and carries on an active trade with Germany and Russia.

Gothenburg has the advantage over Stockholm of lying on the North Sea, while its harbour frequently remains unfrozen in winter. It is a prosperous and rising place, and is already annually visited by a heavier tonnage (2,000,000 tons) than Stockholm. It trades chiefly with Great Britain and Denmark, but also with Germany, France, and even America. Gothenburg is the terminus of the Göta Canal and of railways from Stockholm and Christiania.

Malmö is the chief seaport in the south, carrying on active trade with Copenhagen and with Stralsund. Gefle, Hernösand, and Haparanda are also noteworthy.

EXPORTS AND IMPORTS.

The chief *Exports* are timber (largely to England and France), iron, ores, grain (large quantities of oats to England), butter, matches, live animals, paper, wood pulp for paper, and spirits. The annual value has latterly ranged from more than £12,000,000 to more than £17,000,000. There has recently been an increase in the value of the timber exported.

The chief *Imports* are manufactured articles (woollens in particular), rye, coal, petroleum, colonial produce, skins, wool, cotton. The total annual value is £18,800,000.

Gothenburg and Stockholm monopolize by far the largest share of the export and import trade, which is carried on mainly with Great Britain, Germany, Russia, and Denmark.

Trade, both in Norway and in Sweden, is much fostered by banking, insurance, steam-shipping, and other commercial companies, and certainly not less by the great solidity and honesty which prevails among the northern trading-firms.

GERMANY.

The chief provisions of the constitution of the German Empire are as follows, according to the proclamation of April 16th, 1871:—

The German Empire is a *Federal Union*, the sovereign members of which have surrendered some of their powers to the empire. This federal union bears the name of "*Deutsches Reich*" or German Empire. At its head is the King of Prussia, who bears as chief of the union the title of "*Deutscher Kaiser*" or German Emperor. The emperor possesses the right of naming imperial ambassadors to foreign courts, of declaring war and concluding peace, he holds the supreme command of both army and navy, he summons the representative assemblies, promulgates the laws and carries them out, and nominates the imperial officials. He also controls the general post-office and system of communication.

The Bundesrath (federal council) and the Reichstag (imperial diet) are the *Legislative Authorities* of the empire.

The *Bundesrath* consists of representatives of each of the states forming the federal union; it has 58 members, of whom Prussia contributes 17. A majority of votes decides all questions except proposals to alter the constitution, which are vetoed if 14 votes are cast against them. The council possesses the right of reviewing and rejecting the decisions of the imperial diet, and of discussing the proposals to be made to the diet in the name of the emperor, as well as of making arrangements necessary for the carrying out of the imperial laws. The president of the council is the *Imperial Chancellor* (Reichskanzler), who must countersign all imperial edicts.

The *Reichstag* consists of 397 members, or approximately about one for each 100,000 inhabitants of Germany. The elections are direct, under the protection of the ballot, and manhood suffrage prevails. Every German who is 25 years old and has belonged for at least one year to a German state is entitled both to vote and to be elected. Each diet is elected for a period of three years, and the new diet must be summoned within 90 days of the dissolution of the preceding. Members are not paid.

At the head of the *Imperial Government* stands the imperial chancellor, assisted by the imperial chancellery. Under him are also the general post and telegraph offices, which are imperial institutions, subject to the emperor, as are also a number of other authoritative bodies, such as the imperial exchequer, the national debt commission, etc. Foreign affairs are under the control of the chancellor and the imperial foreign office. In the absence of imperial ministries for military and naval affairs, the corresponding Prussian ministries discharge the duties of these offices.

There is a separate imperial budget. The revenue consists of the proceeds of the customs and excise duties, posts and telegraphs, stamps, railways, and the interest on imperial funds, supplemented by contributions from the federal members.

The army, to service in which every German man is liable, forms the true basis of the new empire. It amounts, on war footing, to about 2,500,000 men.

The navy, not yet fully developed, consists (1887) of 101 vessels, including 13 iron-clads and 14 armoured gun-boats, with 15,200 men. The care bestowed upon the navy by the government, and the excellent material offered in the hardy dwellers on the North German coasts seem to promise a rapid improvement in this branch of the imperial service.

Besides the general imperial constitution, each of the federal states possesses a separate domestic constitution and government. All except the free towns are hereditary constitutional monarchies; and Mecklenburg alone retains the mediæval constitution of the estates. The bi-cameral system of legislation prevails in all except the smaller states, which content themselves with one chamber. The constitution of Prussia, which the other constitutions resemble, may be described here as an example. The diet (Landtag), consisting of a House of Lords (Herrenhaus) and a House of Representatives (Abgeordnetenhaus) takes part in the decreeing of laws and votes the taxes. The affairs of the various provinces are administered by provincial diets, and the affairs of the sub-districts (Kreise) by district diets (Kreisstände), while at the same time the separate communes and municipalities enjoy a great degree of local self-government. At the head of the national government is a ministry of nine members. In the event of any collision of jurisdiction the imperial laws and constitution take precedence of all this complicated and minutely sub-divided system of local government. Many unnecessary and unjust anomalies and local differences have been swept away by the enactments of the imperial government; and Germany now enjoys the advantages of possessing only one common penal and commercial code, a uniform coinage, and an imperial bank. The subjects of any one federal state are *ipso facto*, and without reference to any difference of creed, to be regarded as citizens in all other federal states; they are citizens of the German Empire.

The following are the states forming the German Empire:—

1. The Kingdom of Prussia.
2. ,, ,, Bavaria.
3. ,, ,, Saxony.
4. ,, ,, Württemberg.
5. The Grand Duchy of Baden.
6. ,, ,, Hesse.
7. ,, ,, Mecklenburg-Schwerin.

8. The Grand Duchy of Saxe-Weimar-Eisenach.
9. „ „ Mecklenburg-Strelitz.
10. „ „ Oldenburg.
11. The Duchy of Brunswick.
12. „ „ Saxe-Meiningen.
13. „ „ Saxe-Altenburg.
14. „ „ Saxe-Coburg-Gotha.
15. „ „ Anhalt.
16. The Principality of Schwarzburg-Rudolstadt.
17. „ „ Schwarzburg-Sondershausen.
18. „ „ Waldeck.
19. „ „ Reuss (senior line).
20. „ „ Reuss (junior line).
21. „ „ Schaumburg-Lippe.
22. „ „ Lippe-Detmold.
23. The Town of Hamburg.
24. „ Bremen.
25. „ Lübeck.
26. The "Reichsland" (Imperial Province) of Alsace-Lorraine.

The German Empire has a total area of 211,150 square miles, with a population of 49,428,000 (1890). Of the latter, 92% are Germans; 62% Protestants, 36% Roman Catholics, and 1·20% Jews. In point of density of population Germany is inferior only to England, Belgium, Holland, and Italy.[1]

PRUSSIA.

SITUATION AND BOUNDARIES.

Since its acquisitions in 1866 the kingdom of Prussia has been a compact country, lying between 5° 52′ and 22° 53′ E. long. and between 49° 7′ and 55° 53′ N. lat. A few small possessions lie detached from the main body, viz., the barony of Schmalkalden in the Thuringian Forest, a small district on the Saale, and Hohenzollern in Württemberg.

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[1] Emigration from Germany has reached very large proportions. Between 1830 and 1887 about 4,200,000 emigrants are computed to have left the country, 3,800,000 of whom were bound for the United States.

The main body of Prussia is bounded on the east by Galicia and Russia, on the north by the Baltic Sea, Mecklenburg, Denmark, the North Sea, and Oldenburg; on the west by the Netherlands, Belgium, and Luxemburg; and on the south by Alsace-Lorraine, the Bavarian Palatinate, Hesse, Bavaria, Saxony and the Saxon duchies, Bohemia, and Austrian Silesia.

Within Prussia are embraced as "enclaves," Anhalt, Brunswick, Hamburg, Lippe-Detmold, Lippe-Schaumburg, Waldeck, and Upper Hesse. Heligoland was added in 1890.

Prussia has an area of 134,490 square miles, and a population of 28,300,000.

POPULATION.

Judged by the standard of speech the inhabitants of Prussia are overwhelmingly German (about 25,000,000); 2,500,000 (in Posen, W. and E. Prussia, and Silesia) are of Slavonic descent, but so Germanized that this Slavonic element in Prussia may be disregarded; 10,000 (in Rhenish Prussia) are Walloons, and 150,000 (in Schleswig) are Danish. About 10,000 French live in the German towns on the French border.

According to the *Religious Census* the majority of Prussians are Protestants (Lutheran and Reformed, 18,000,000); 9,800,000 are Roman Catholics (chiefly in Rhenish Prussia, Posen, and Silesia, which formerly had Roman Catholic rulers), and about 500,000 are Jews (in Posen, Silesia, and Rhenish Prussia). Besides these there are a few tolerated sects such as the Herrnhuter or Moravian Brethren in Saxony and Silesia, and the Mennonites.

The different parts of Prussia show very different degrees of *Density* of population. The average for the entire country is 202 per square mile; the most sparsely-populated province is Pomerania with 132 inhab. per square mile; the most densely-populated is Rhenish Prussia with 390 per square mile. In the district of Düsseldorf, in the last-named province, the density is nearly 780 per square mile, paralleled only in England.

In few other countries has *Education* so penetrated all classes of the community as in Prussia. That country possesses the most numerous and the best organized schools of all kinds to be found in any country in the world; elementary instruction is universal, extending to the smallest hamlet.

Nearly everyone in the German districts and in most of the Slavonic districts can read and write. Secondary education is provided by numerous middle and high-schools, besides which technical and other special schools, academies, and learned associations abound. Many of the Prussian educational establishments enjoy a well-earned world-wide reputation.

In addition to the practical schools, we find an attention bestowed on the teaching of the arts and exact sciences, such as is found in few other countries.

It is impossible for such efforts to remain without effect, and we are probably justified in tracing Prussia's commanding position among the most highly-cultured nations of the earth to her great and highly-developed intelligence.

The attention paid to the study of foreign languages is of the greatest importance not only in Prussia, but also in all Germany. The Germans owe, in great measure, their increasing influence in commerce to their command of foreign tongues. Germans are now met with in all the great centres of trade, sometimes as the assistants of foreign merchants, but now generally in independent and influential positions.

PHYSICAL FEATURES.

In contrast with Austria-Hungary Prussia must be described as flat. Its mountains occupy quite a subordinate position. The chief ranges are in the south and in the west, along both banks of the Rhine, where they reach their most northerly point.

The principal ranges are the *Glatz Mountains*, the *Giant Mountains* (Riesengebirge), with the Riesenkoppe (5250 ft.), the highest summit in the country; and the *Iser Mountains;* the *Thuringian Forest*, with the Beerberg (3227 ft.), the *Harz Mountains*, with the Brocken (3740 ft.), and the *Teutoburger Wald;* on the right bank of the Main are the *Rhön*, *Spessart*, and *Vogel Mountains;* on the right bank of the Rhine, the *Taunus Mountains*, the *Westerwald* with the Siebengebirge, the *Roth Haargebirge*, with the Astenberg (2770 ft.), and the Haarstrang; on the left bank of the Rhine, the *Hundsrück*, *Hochwald*, *Eifel*, and *Hohe Venn*, all beneath 2950 ft.

The *Swabian Jura*, in Hohenzollern, rises to the height of 2130 ft.

CLIMATE AND FERTILITY.

Notwithstanding the slight differences of altitude in Prussia, its climate is very varied. The mildest climate is found in Rhenish Prussia (mean. temp. 50° F. as in Vienna); while the adjacent valleys of the Eifel and Hohe Venn are cold and bleak, and on the Brocken the mean temperature is below 37·5° F. In the centre of the country the mean temp. varies from 44·6° to 48° F., at Altona (on the sea) it is 51·8° F. At Bonn the mean temp. in Jan. is 35·6° F., in July 64·5° F.; on the Brocken the figures are 24·5° F. and 51° F.

Most *Rain* falls in the Harz Mountains.

Prussia cannot be ranked among the most fertile European countries, as nearly $\frac{1}{8}$ of its area is unproductive, consisting of marshes, swamps, bogs, heaths, and sandy wastes (especially in Brandenburg).

The most unfruitful districts are in the provinces of East and West Prussia, Pomerania, Brandenburg, Silesia, and Hanover, and on the Hohe Venn. Many of the naturally poor districts have been brought under culture by diligent labour and drainage.

SEAS, RIVERS, CANALS, AND LAKES.

Prussia is washed by the Baltic and North Seas, two of the most frequented seas of Europe, which bound the kingdom on the north, and into which the chief rivers of the kingdom flow. The German coast on the North Sea is so flat, that even small craft cannot approach it except at the mouths of the rivers, where the running water keeps deeper channels open. The Baltic Sea off Germany is shallowest along the eastern part of the coasts, where it forms huge landlocked bays called *Haffe;*

the western part of the coasts on the other hand, though not generally accessible to larger vessels, is distinguished for its spacious natural bays, as those of Flensburg, Kiel, Wismar, and Rostock.

The Baltic harbours are usually frozen for several months every year, but in the North Sea traffic is hardly ever so interfered with. The Baltic Sea has no tide.

The North Sea is important as a means of communication with England and transatlantic countries; the Baltic as a communication with Russia, Denmark, and Scandinavia.

The chief *Rivers* of Germany have all longer or shorter portions of their course in Prussia. The principal are:—

1. Flowing into the Baltic.—The *Memel*, *Pregel*, *Vistula*, and *Oder* (with its tributaries the Glatzer Neisse, Lausitzer Neisse, and Warthe).

2. Flowing into the North Sea.—The *Elbe*, with its tributaries the Mulde, Saale, and Havel; *Weser*, formed by the junction of the Fulda and Werra; *Ems;* and *Rhine*, with its tributaries the Lahn, Sieg, Ruhr, Lippe, Nahe, and Moselle.

3. Flowing into the Black Sea.—The *Danube*, 30 miles of the course of which is in Hohenzollern, before the river becomes navigable.

Besides these Prussia has numerous short streams on its coasts.

The *Canal System* of Prussia dates from an early period, and serves partly for navigation, partly for drainage purposes.

The most important are the Bromberger Canal (from the Vistula to the Oder), Friedrich-Wilhelms Canal (Oder-Spree-Elbe), Finow Canal (Oder-Havel-Elbe), and the Stekenitz Canal (from the Elbe to Lübeck). A great ship canal, the North Sea and Baltic Canal, from the mouth of the Elbe to Kiel, is now being made. A complete system of canals connecting the Elbe, Ems, and Rhine is projected and partly under construction. There are numerous smaller canals in the reclaimed districts, which make up the total of Prussian canals to 90, with a total length of 1200 miles.

The north of Prussia abounds in *Lakes*, some of them on the coast and connected with the sea (especially in the provinces of Prussia and Pomerania).

The chief are the Spirding-See in East Prussia, the Plöner-See in Holstein, and the Dümmer-See and Steinhuder Meer in Hanover. Many of the smaller lakes are more or less marshy in character.

PROVINCES AND CHIEF TOWNS.[1]

1. *Brandenburg.*—Berlin (1,579,000 inhab.); Potsdam (50,000 inhab.); Frankfurt-an-der-Oder (54,000 inhab.).

2. *Pomerania.*—Stettin (116,000 inhab.); the Island of Usedom, with Swinemünde; the Island of Rügen, with Bergen.

3. *East Prussia.*—Königsberg (160,000 inhab.), with its foreport Pillau; Memel.

4. *West Prussia.*—Dantsic (117,000 inhab.), with its foreport Neufahrwasser.

5. *Posen.*—Posen (69,000 inhab.); Bromberg.

6. *Silesia.*—Breslau (335,000 inhab.); Görlitz (56,000 inhab.).

7. *Saxony.*—Magdeburg (202,000 inhab.); Erfurt (58,000 inhab.); Merseburg; Halle (82,000 inhab.); Wittenberg; Naumburg.

8. *Hanover* is divided into six districts called Landdrosteien. —Hanover, with Linden (163,000 inhab.); Hildesheim; Lüneburg; Osnabrück; Norderney and the other East Frisian islands.

9. *Schleswig-Holstein.*—*a. Schleswig*—Schleswig (15,000 inhab.); Flensburg; the Island of Alsen. *b. Holstein*—Kiel (51,000 inhab.); Altona (104,000 inhab.).

10. *Westphalia.*—Münster (44,000 inhab.); Arnsberg; Iserlohn, in the celebrated Emperstrasse; Dortmund (78,000 inhab.).

11. *Rhenish Prussia.*—Cologne (Köln, 281,000 inhab.); Bonn; Düsseldorf (114,000 inhab.); Elberfeld (106,000 inhab.); Barmen (104,000 inhab.); Essen (65,000 inhab.); Krefeld (90,000 inhab.); Aachen or Aix-la-Chapelle (96,000 inhab.); Coblenz; Trèves (Trier).

12. *Hesse-Nassau.*—*a. Hesse*—Kassel (64,000 inhab.); Mar-

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[1] **Census of 1890 for the larger cities, 1885 for the others.**

burg; Hanau; Homburg. *b. Nassau*—Wiesbaden (55,000 inhab.); Limburg; Ems.—Frankfurt-am-Main (180,000 inhab.).

13. *Hohenzollern.*—Sigmaringen; Hechingen; Hohenzollern.

NATURAL PRODUCTIONS.

1. **Agriculture.**[1]—By means of unusually careful farming Prussia is able to meet the domestic demand, and even in prosperous years to have a small surplus of agricultural produce.

Silesia, Westphalia, Hanover, Schleswig, and Prussia are the best farming provinces; most grain is produced in the eastern provinces and in Westphalia. Nearly one-half of the entire area is occupied by arable and garden land.

The chief bread-stuff is *Rye* (upwards of 17,500,000 qrs.), which is universally grown, though most successfully in Saxony, Silesia, and Westphalia. *Wheat* (5,840,000 qrs.) is raised chiefly in Silesia, Saxony, and on the banks of the Vistula. *Oats* (17,200,000 qrs.) and *Barley* (5,840,000 qrs.) are produced in all parts of the country.

Potatoes are the staple article of food in many mountainous and poor districts. The annual crop amounts to about 506,000,000 bushels, of which the Baltic provinces and Silesia contribute the largest proportions.

Leguminous Vegetables are raised in large quantities in all parts of Prussia.

Tobacco (228,000 cwts. dried leaves) flourishes, especially in Brandenburg (Ukermark), Saxony, and Silesia.

Oil-plants are grown in sufficient quantity in Pomerania, Brandenburg, and Silesia, to maintain a considerable export trade in oil.

Mustard, *Anise-seed*, and *Caraway* are also exported.

Hops (34,000 cwts.) grow mainly in Posen and Saxony.

Beetroot is cultivated in yearly increasing quantities, for its sugar-yielding qualities. The chief beetroot districts are Saxony (round Magdeburg) and Silesia.

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[1] Prussia contains 66% of the arable land, 60% of the forests, and 14% of the vineyards of all Germany.

The domestic produce of *Hemp* and *Flax*, which are cultivated in Silesia, Westphalia, Hanover (Kassel), requires to be supplemented by importation.

Nursery Gardening and the cultivation of *Fruit Trees* have both attained a high level of excellence, especially in the neighbourhood of Erfurt, and in the valley of the Rhine.

Vines are cultivated with the greatest success in Nassau, Rhenish Prussia, and in the valleys of the Rhine and the Moselle. About 4,400,000 gallons of wine are annually produced, the value of which is very great, as "hock" and other Rhine wines are among the most highly esteemed wines in the world.

About 23% of the area of Prussia is occupied by forests, more than one-fourth of which are in the hands of the state. The most richly wooded districts are in Brandenburg, Nassau, Kur-Hesse, and Rhenish Prussia. Coniferous trees are commonest in the east, deciduous trees in the west.

2. **Live Stock.**—Although very much has been done and is still being done to provide pasturage, some of the provinces of Prussia still labour under the want of grazing-lands.

The leading branch of stock-farming in Prussia is the breeding of *Sheep*, of which the country contains 20,000,000. Two-thirds of these are merino-sheep, or other improved breeds.

Brandenburg (model flock at Frankenfelde), Silesia, Pomerania, and Saxony are the chief pastoral provinces. Prussian wool is highly esteemed and largely exported.

Horses (2,300,000) are also bred with great care. The finest animals are reared in Hanover, Holstein, East and West Prussia. Trakehnen, the largest Prussian stud-farm, is in East Prussia.

Horned Cattle (8,700,000 head) are so few in comparison with the requirements of the country, that large numbers are annually imported. The finest herds are to be found in the moist lowlands (Marschländer), which occupy nearly one-fourth of the area of Holstein and Hanover.

Pigs (5,800,000) are reared in annually increasing quantities, especially in Westphalia and the eastern provinces.

Prussia contains also 1,500,000 *Goats*. *Poultry* are most numerous in Pomerania; *Bees* (1,500,000 hives) in Silesia.

Fishing is carried on with great success, both in the open sea (mainly off the Pomeranian coast) and in the rivers. About 20,000 tons of herrings are annually landed. The Elbe and the Rhine contain salmon, salmon-trout, and sturgeon; and many of the lakes are well stocked with fish.

3. **Minerals.**—Mining forms one of the chief sources of the national wealth of Prussia, for that country ranks among the first in the world in respect of its mineral produce. Nearly 75% of all the minerals raised in Germany are mined in Prussia.

The lavishness of nature is supplemented by a skilful and careful system of exploitation.

The chief Prussian minerals are *Coal* and *Iron*, which are found in a quantity and quality surpassed in no other European country except England.

The most extensive and richest *Coal-fields* are those of Westphalia (Hellweg, Minden), the Ruhr in Rhenish Prussia, the Saar district, especially at Saarbrücken and Düren, and Silesia, centring at Tarnowitz.

Lignite is most abundant in Saxony (Halle, Merseburg), Brandenburg, and Rhenish Prussia.

In 1891 the total output of coal was about 67,000,000 tons, of which 20% was lignite.

Iron (total output 3,200,000 tons, ¾ of the output of all Germany) is mined in Silesia (Tarnowitz, Beuthen), Westphalia (Bochum, Iserlohn, Arnsberg, Siegen), Rhenish Prussia (Düren, Saarbrücken, Saarlouis), and Hanover, *i.e.* generally in the neighbourhood of the coal deposits.

Next to coal and iron in importance stands *Zinc*, of which Prussia produces more than any other country in the world. The annual output is about 110,000 tons, or nearly one-half of the total produce of the globe. The chief mines are in Silesia (Tarnowitz, Beuthen), the Harz, and in Rhenish Prussia (Aachen, Stolberg).

Gold is found, but in small quantities (13,000 oz. in the Harz).

Silver, on the other hand, is tolerably abundant in the Harz. Much is extracted from the copper ore. The total yield is nearly 4,500,000 oz.

Lead is found in the zinc-mines and in Nassau. The richest lead-mine is at Euskirchen, in Rhenish Prussia. The annual production is about 100,000 tons, but is rising steadily.

Copper is raised in the Harz, Westphalia, and Saxony, etc., to an annual amount of about 15,000 tons.

Nickel, arsenic, sulphur, antimony, alum, cinnobar, etc., are found in less considerable amount.

Salt, on the other hand, is produced in very large quantities. The chief salt-beds (Salinen) are at Halle, Schönebeck, Dürrenberg, and Münster. Rock-salt is excavated at Schönebeck, Erfurt, Stassfurt. Chemical salts are prepared to a large amount at the last-named spot. The total yield of the Prussian salt-beds is 1,150,000 tons, of which 700,000 tons are chemical salts.

Mineral Springs are especially numerous in Nassau (Wiesbaden, Selters, Ems, Schwalbach, Schlangenbad, etc.).

Among the remaining useful minerals of the country must be mentioned calcareous earth, the millstones of Coblenz, the potters' clay of Silesia and Rhenish Prussia, and the coarser clay near Cologne (pipe-bowls). Amber is found near Königsberg and at other points on the Baltic coast to an annual value of about £80,000.

The whole mining industries of Prussia are controlled by the five mining administration offices of Breslau, Halle, Bonn, Dortmund, and Clausthal.

Prussia encourages the improvement of agriculture and mining by its many excellently equipped *Schools* of agriculture, forestry, and mining.

MANUFACTURES.

Prussia is almost more a manufacturing than an agricultural state. Its manufacturing industry stands at so high a level that it not only takes the first rank in Germany, but also successfully competes in many branches with foreign nations.

The entire country is dotted over with numerous factories, which have reached a special excellence in the textile, iron, and chemical industries.

The leading industrial provinces are Brandenburg,[1] Silesia, Saxony, Westphalia, and Rhenish Prussia; and no districts are so far behind as *e.g.* Dalmatia or Bukowina in Austria.

Textile Industries.—*Cotton.*—The Prussian cotton industry is steadily increasing, so that it not only meets the domestic demand but maintains an export trade. Nearly one-half of the cotton-factories of Prussia are situated in Rhenish Prussia (chiefly at Elberfeld, Viersen, München-Gladbach, Düsseldorf, and in the whole valley of the Wupper), the remainder being mostly in Silesia and Westphalia (Görlitz, Reichenbach, Glatz, Schweidnitz, and Bielefeld). About 700,000 spindles are in operation in spinning cotton. The best dye-works are at Barmen (Turkey red) and Düsseldorf; and the largest calico-printing establishments are also in Rhenish Prussia.

Woollens.—The Prussian woollen industry has re-conquered in the present century the rank which it once held in the middle ages. Notwithstanding the extensive domestic breeding of sheep, large quantities of wool are imported from abroad for the woollen factories. Rhenish Prussia, Brandenburg, and Silesia here again lead the way.

The wool-spinning establishments contain upwards of 1,000,000 spindles, including 30,000 spindles for worsted yarn.

Wool-weaving flourishes chiefly in Rhenish Prussia (Aachen, Eupen, Montjoie, Malmedy, Elberfeld, Lennep, and the Wupper valley), Brandenburg (Berlin, Potsdam, Luckenwalde, Guben), Saxony (Burg, Magdeburg), and Silesia (Breslau, Görlitz).

The *Linen* industry has its chief seats in Silesia, Rhenish Prussia, Westphalia, and East Prussia.

Yarn-spinning by machinery, in which branch Silesia has suffered severely from English competition, employs 260,000 spindles.

Thread is produced in Rhenish Prussia and Silesia.

Linen-weaving flourishes chiefly in Silesia (Reichenbach, Hirschberg, Jauer, Görlitz), and also in Westphalia (Warendorf, Bielefeld), Saxony (Magdeburg, Worbis), and Hanover (Linden, Osnabrück, Lüneburg). The most extensive *Bleach-fields* (including chemical bleaching-works) are situated in Silesia and the Wupper valley.

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[1] Berlin is one of the leading manufacturing towns in Europe, with 250,000 workers.

Sail-cloth is manufactured at Dantsic, Königsberg, and Stettin, which also produce good ropes and cordage.

For its rapidly improving *Silk* industry Prussia now takes a place second in Europe only to France.

The centre of this industry is in the district of Düsseldorf, at Krefeld (35,000 looms), Elberfeld, and Barmen (chiefly ribbons). Half-silk goods are manufactured at Gladbach (3000 looms). Berlin in Brandenburg and Bielefeld in Westphalia also have silk manufactures.

The silk goods of Rhenish Prussia are sought for in all markets. At least the half of the produce is exported, to America, England, Russia, and even to France.

Metallic Industries.—The metal industry of Prussia is the leading manufacturing industry of the country, and its products are year by year assuming a more and more commanding position in the markets of the world. The Prussian factories produce every variety of metal goods from a tiny nail to a gigantic steam-engine; but the greatest triumph in this branch has been achieved in the manufacture of *Steel-wares*, which surpass even English wares in quality. This great industry has its centre in Rhenish Prussia. Krupp's establishment at Essen employs 20,000[1] workmen, and turns out annually 1,000,000 tons of cast-steel.[2] It contains the largest steam-hammer but one on the Continent, weighing fifty tons, with a fall of 10 ft., erected at a cost of £100,000. This establishment is famous for its cannon, armour-plates, and railway axles. Bochum, Heinrichshütte near Hattingen, and Siegen, are also important steel-working towns.

Cast-iron goods are produced at Berlin, Sayn near Coblenz, Schweidnitz, Malapane (Silesia), Hanau, and Bukau (near Magdeburg).

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[1] Representing, with their dependants, a population of 70,000.

[2] This firm imports in its own steamers iron ore specially adapted for conversion into steel from its own mines in the north of Spain.

Rails are made at Saarlouis, Stolberg, Malapane, and Laurahütte; *Tin-plates* at Hörde near Dortmund, Suhl, and Neuried; *Tin-ware* at Coblenz, Berlin, and Bochum; *Wire* at Hamm; *Nails* at Aachen, Altena, and Iserlohn.

Cutlery of all kinds is made of good quality in the "Emperstrasse" (a valley in Westphalia lined for 6 miles with factories), at Iserlohn, Solingen, Remscheid, and in Silesia. The blades and other manufactures of Solingen are exported all over the world and even to England; large quantities of knives to cut down the sugar-cane are sent hence to America. Files, gimlets, anvils, skates, etc., are also produced at Solingen. The principle of the division of labour is here carried out on a very complete scale.

The manufacture of *Machinery* has been brought to high excellence in Prussia, and that country is now, in this department, quite independent of foreign supplies. Nearly all the machinery required for railways, foundries, agriculture, and manufactures in Prussia are produced in the 300 machine-factories which the country contains. Among the leading centres of this industry are Berlin (Borsig's factory), Breslau, Elbing, and most of the seaports; besides Erfurt and Magdeburg, and Deutz, Aachen, and Essen.

Sewing-machines are made in Berlin, Hanover, and Frankfurt-am-Main.

Bayonets at Sömmerda, near Erfurt.

Copper-goods at Stolberg near Aachen, Iserlohn, and Berlin.

Zinc-goods at Berlin, Arnsberg, and in Silesia.

Bronze and *Brass Goods* at Berlin, Iserlohn, Altena, and Stolberg near Aachen.

Lead-working centres in Hanover and the Rhine provinces.

Gold and *Silver* wares are produced at Hanau, Frankfurt-am-Main, and Berlin. The manufacture of German-silver goods in Berlin is rising in importance.

Other Industries.—Very many other branches of industry are represented in Prussia, though none have the importance of the textile and metallic manufactures. The following are some of the chief of these, with their principal centres:—

Glass in Silesia (Schreiberhau and Obersalzbrunn), Westphalia (Alterbecken), Rhenish Prussia (Stolberg). The mirrors of the last-named province are specially fine. The glass-wares of Prussia are dangerous rivals to those of Austria, both on account of their excellence and their cheapness.

Porcelain is made chiefly in Berlin, Deutz, and Waldenburg (Silesia). Rhenish Prussia contains numerous *Earthenware* and *Fire Clay* factories. Mettlach produces fayence. *Crucibles* are made at Grossalmerode, in Hesse.

Caoutchouc-goods are made in Berlin and Harburg.

Paper and *Wall-papers* are produced in Rhenish Prussia and Berlin.

Chemicals are manufactured in upwards of 200 establishments, most of which are in Silesia, Saxony, Brandenburg, and Rhenish Prussia, in the towns of Berlin, Stassfurth, Aachen, Cologne, Kassel, and Frankfurt-am-Main.

Soap-making is carried on at Berlin, Stettin, and Cologne; the manufacture of *Dyes* and *Colours* in Rhenish Prussia (Düsseldorf).

Tanning is important at Malmedy, Cologne, Frankfurt-am-Main, Berlin, etc. *Saddlery* and *Leather-goods* are made in Berlin.

Brandy and *Spirits* are largely distilled in Posen, West Prussia, Silesia, and Brandenburg. The last-named province exports considerable quantities.

Beetroot Sugar is made in 265 factories, half of which are in the neighbourhood of Magdeburg in Saxony, the remainder chiefly in Silesia and Rhenish Prussia. In 1891 the total production was 1,000,000 tons.

Cigar-factories number about 1500, and are most abundant in Rhenish Prussia, Westphalia, and Saxony (Berlin, Cologne, Duisburg, Magdeburg).

Sparkling Wines are made at Frankfurt-am-Main, Höchst, Coblenz, and Grüneberg.

Perfumery is best at Cologne, Berlin, and Frankfurt-am-Main.

The *Carriages*, *Furniture*, *Musical Instruments*, *Railway Plant*, *Clothing*, and *Ornaments* manufactured in Berlin are highly esteemed.

Philosophical, *Chemical*, and *Surgical Apparatus* is produced at Berlin, Göttingen, and Breslau.

Shipbuilding centres at Stettin (which contains the celebrated yard of the Vulcan Co.), and is also carried on at Kiel (which has large naval docks and an arsenal), Altona, and Leer.

River Craft are built at Frankfurt-am-Main and Breslau.

TRADE AND COMMERCE.

Corresponding to its size, position, and productions, Prussia has a very important domestic as well as foreign trade.

The **Foreign Trade**, which consists chiefly in the importation of raw material and the exportation of manufactured goods, is carried on to a greater extent overland than by sea, as Hamburg and Bremen, the chief seaports of Germany, are both situated outside of Prussian territory. Prussia, however, still maintains considerable maritime traffic, especially with England, Scandinavia, Denmark, and Russia. Its mercantile fleet includes 2600 vessels (besides small coasting craft), with a total burden of 440,000 tons, of which 315 vessels (110,000 tons) are steamers.

The chief seaports are Königsberg, Dantsic, Stettin (Baltic Lloyd), Kiel, Geestemünde, and Emden. Memel, Colberg, Stralsund, Greifswalde, Altona, and Leer are of secondary importance.

The **Domestic Trade** is facilitated by the navigable and regulated rivers and canals. The country contains 1200 miles of navigable canals and 4720 miles of navigable rivers. Few rivers of the globe are so crowded with traffic as the Rhine, while even the smaller rivers, like the Spree, are alive with barges and other craft. The highly developed system of inland navigation offers a natural safeguard against high railway tariffs.

Prussia contains 14,900 miles of *Railways*, nearly all of which are worked by the state; only 1250 miles are in the hands of private companies. The leading railway centres are Berlin, Cologne, Frankfurt-am-Main, Hanover, and Breslau.

Of the excellent *Roads*, which have an aggregate length of 31,000 miles, about 14,000 miles are government high-roads.

Telegraph-lines now connect all places of even second-rate or third-rate importance in Prussia. Many villages are connected by telephone with the nearest telegraph-stations.

Besides the already mentioned seaports, the following inland towns are important trading-centres:—

Berlin is now not only the political but also the commercial capital of Germany. It resembles Vienna in being an important manufacturing town, one of the leading money-markets in the world, and among the first trading cities in Europe, maintaining commercial relations chiefly with Russia, Austria, and Scandinavia, but also with the most remote transoceanic countries.

Frankfurt-am-Main is an old-established and celebrated money-market. *Magdeburg* has trade in colonial produce and wool, besides a commission trade. *Breslau*, a leading market for wool and flax, is an important centre of the Russian trade, in which, however, it is excelled by *Frankfurt-an-der-Oder*. *Cologne*, *Barmen*, *Elberfeld*, and *Düsseldorf* are depots for the produce of the Rhineland; *Coblenz* for the wines of the Rhine. *Aachen* is a cloth-market. *Solingen*, *Remscheid*, and *Iserlohn* carry on an active trade in metal goods, *Malmedy* in leather, *Bielefeld* and *Königsberg* in linen.

Wehlau is famous for its great horse fairs.

The towns on the Baltic coast, Berlin, and Breslau are the leading *Grain Markets* of Prussia.

SAXONY.

Situation and Population.—The kingdom of Saxony lies between 50° 10′ and 51° 29′ N. lat., and between 11° 53′ and 15° 4′ E. long. It is bounded by Prussia, Austria-Hungary, Bavaria, Reuss, Weimar, and Altenburg.

Saxony has an area of 5790 square miles, and a population of 3,200,000, nearly all Protestants. Rather more than 70,000 (including the royal family) are Roman Catholics; about 6500 are Jews. Judged by the standard of language, the population is purely German, with the exception of about 50,000 Wends.

Saxony is one of the most densely-populated countries in Europe (513 per square mile.) The industrial department of Zwickau has 619 per square mile, Bautzen 368. Some districts have nearly 770, none has less than 360 per square mile.

Education in Saxony has attained an extraordinarily high development. Excellently organized educational establishments of all kinds abound, and some of these enjoy a world-wide reputation, *e.g.* the university of Leipsic, the Polytechnicum at Dresden, the School of Mining at Freiberg, the Commercial Schools at Leipsic and Dresden, the Booksellers' School at Leipsic, and the Trade Schools at Chemnitz and Zittau.

Besides these there are numerous *Technical Schools* for particular industries, and even for particular branches of industries.

Natural Features.—Saxony on the whole is mountainous or hilly; the greater part of its area is occupied by the northern slopes of the Erzgebirge and Lausitzergebirge, and only the north-west extends into the great German plain. Although the loftiest summits are less than 4000 ft. above the sea-level, the *Climate*[1] among the mountains is very severe, and the fertile districts are restricted to the valley of the Elbe and the other low-lying regions. The Elbe is the chief river of Saxony; the Mulde the second.

CHIEF TOWNS.

Few countries in the world contain proportionately so many towns as the little kingdom of Saxony; more than half of the entire population (53%) dwell in towns. The most important are:—

1. *Department of Dresden.*—Dresden (290,000 inhab.); Pirna; Altenberg; Freiberg (27,000 inhab.); Meissen; Lommatsch.
2. *Department of Leipsic.*—Leipsic (170,000 inhab.; or including the suburbs 322,000 inhab.); Grimma; Döbeln.
3. *Department of Zwickau.*—Zwickau (39,000 inhab.); Chem-

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[1] Mean temperature at Dresden in Jan. 30·7° F; in July 64·5° F.

nitz (110,000 inhab.) Johann-Georgenstadt; Plauen in the Voigtland (42,000 inhab.); Annaberg; Meerane; Glauchau.

4. *Department of Bautzen.*—Bautzen; Bischofswerda; Herrnhut; Kamenz; Zittau.

NATURAL PRODUCTIONS.

Agriculture.—Saxony is much richer in minerals than in animals or plants. But in spite of the infertility of their country, the Saxons have, by untiring industry, brought the cultivation of the soil to such a pitch of excellence that they must be reckoned among the most skilful farmers in the world.

The agricultural produce of Saxony does not meet the domestic demands of the dense population. *Potatoes,* forming the staple food of many thousands of the inhabitants, are the most universally grown crop.

The most important breadstuff is *Rye,* as in Prussia.

Nearly one-third of the area of the land is under *Forests.*

Flax is also largely cultivated.

Live Stock.—*Stock-farming* is carried on to a comparatively slight extent in Saxony. The once famous sheep-breeding industry has much declined in consequence of foreign competition.

Minerals.—The *Mines* of Saxony are a source of much wealth not only on account of their rich mineral treasures, but also on account of the excellent state of mining-engineering. *Freiberg,* in the Erzgebirge (ore mountains) possesses one of the most famous mining-academies in the world; and Saxons miners are in request in all quarters of the globe.

The most valuable mineral is *Coal* (4,300,000 tons, $\frac{1}{8}$ of which is lignite), the largest fields of which are near Zwickau, in the "Plauen'sche Grund," near Dresden, and near Zittau.

Iron (10,000 tons) ranks second; and after that come silver (1,280,000 oz.), arsenic, and fine porcelain clay. Much ore is imported from Spain and Chili to be smelted in Saxon furnaces.

MANUFACTURES.

The manufactures of Saxony are its main resource; without these it would be impossible for so large a population to dwell in so small, and so indifferently fertile a country. Two-thirds of the inhabitants are engaged in the manufacturing industries, which are tolerably uniformly distributed over the whole country, for there is scarcely a village[1] in which some manufacture or another is not carried on.

This great industrial activity dates from an early period in the history of Saxony, and it has also kept pace with the new discoveries of all manufacturing nations, so that Saxony must now be reckoned among the first industrial countries in the world.

The principal manufacturing town is *Chemnitz*, the Manchester and Birmingham of Saxony, in which all branches of industry are united.

The most important industries of the country are the manufactures of textile fabrics and of machinery, departments in which Saxony is unapproached by any other German state.

The *Cotton Industry* (500,000 spindles) centres in Chemnitz, Plauen, and Zwickau, where there are large spinning and weaving establishments, dye-works, and calico printing works, the produce of which is exported.

The *Linen* and *Damask* manufacture, chiefly in Lusatia, is almost unexcelled elsewhere.

The *Woollen* fabrics of Saxony, including cloth, merinos, flannel, etc., are in great request, not only in Europe but also in the East and in America. The chief seats of the manufacture are Zwickau and Bischofswerda.

Large quantities of hosiery and woollen underwear are also produced at Chemnitz, etc.

The production of *Silk* is on the increase; the chief seat of the manufacture is Annaberg, where large quantities of trimmings, etc. are also made. Tambour lace is produced in the neighbourhood of Eibenstock, cotton muslins in the Voigtland.

Lace-making, invented by Barbara Uttmann (d. 1575), supports thousands of the peasantry in the Erzgebirge.

Metal Goods of all kinds are produced in great excellence. The largest foundries, casting, and rolling works are situated around Zwickau and in the "Plauen'sche Grund," near Dresden; the largest machine factories are in Chemnitz and Bautzen.

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[1] Saxony contains 500 "industrial villages."

Type Founding and *Printing* have attained in Saxony a level equalled nowhere else in Germany. The leading centre of these industries is Leipsic, the capital of the German book-trade, which exports annually about 50,000 tons of printed matter.

Among the other manufactures of Saxony are chemicals, porcelain (the pottery at Meissen, where "Dresden china" is made, is the oldest in Germany), tobacco, optical and musical instruments. Dresden and Leipsic make the best pianofortes; Klingenthal the best violins.

TRADE AND COMMERCE.

The extensive and prosperous manufacturing industry of Saxony is naturally attended by a correspondingly extensive trade. Leipsic, the mercantile capital of the country, and one of the busiest railway junctions in Germany, is, next to Berlin, the most important inland trading-town in the empire. It is the capital of the book-trade on the Continent, the principal market in central Europe for skins and furs, and one of the largest manufacturing towns in Germany.

The celebrated Leipsic Fairs, it is true, are no longer so important as they once were, but as the largest fairs in Western Europe, they still attract merchants from all the states of Europe, from America, and from Asia, who here transact business representing an annual turn-over of at least £10,000,000. In furs and skins alone business to the extent of £1,250,000 is done.

Communication in Saxony is facilitated by the Elbe, by 1430 miles of railways, exclusively in the hands of the state, by 2000 miles of good roads, and by telegraphs, banks, insurance companies, etc.

The country maintains commercial relations with the most remote ends of the earth. Its exports chiefly consist of the above-mentioned manufactures. The United States alone annually take goods from Saxony to the value of £3,000,000.

THE THURINGIAN STATES.

This group, in the very heart of Germany, surrounded by Saxony, Prussia, and Bavaria, consists of eight states.

1. Four Saxon duchies.—The **Grandduchy of Saxe-Weimar-Eisenach**, and the duchies of **Saxe-Meiningen-Hildburghausen, Saxe-Coburg-Gotha,** and **Saxe-Altenburg.**

2. The two principalities of **Schwarzburg-Sondershausen,** and **Schwarzburg-Rudolstadt.**

3. The two principalities of **Reuss-Greiz** (senior line) and **Reuss-Schleiz-Lobenstein** (junior line).

The aggregate area is 5078 square miles; and the population 1,200,000, almost all Lutheran Protestants.

Education is organized on a scale equalled in few other countries. Besides the celebrated university of Jena, this district has numerous technical (agricultural, architectural, commercial), secondary, and primary schools.

The *Frankenwald*, *Thuringian Forest*, and *Thuringian Tableland* are the chief elevations of the surface; but in spite of this mountainous character the land is well tilled. About 53% of the area is under the plough.

The chief river is the *Saale*, which has numerous affluents.

The most important *Natural Productions* are grain, flax, and fruit; sheep and pigs; coal (800,000 tons), iron, and salt.

The chief town are:—

Coburg (16,000 inhab.), Sonneberg, Hildburghausen, Meiningen, Eisenach, *Gotha* (28,000 inhab.), *Weimar* (21,000 inhab.), Jena, Apolda, *Gera* (34,000 inhab.), *Altenburg* (29,000 inhab.), Rudolstadt.

The *Manufactures* of Thuringia are old-established, especially those in Saxe-Weimar and Reuss. Among the chief products are:—*Cotton* and *Woollen* fabrics (especially hosiery and underclothing); porcelain; organs and other musical instruments at Gera; papier-maché goods.

These flourishing industries are accompanied by an active *Trade*, which is much encouraged by an excellent railway-system.

HESSE.

The Grand-duchy of Hesse lies between Bavaria, Baden, and Prussia. It comprises an area of 3000 square miles, and has a population of 940,000, nearly $\frac{3}{4}$ of whom are Protestants, $\frac{1}{4}$ Roman Catholics, and $\frac{1}{36}$ Jews.

The northern parts are rendered bleak and mountainous by the Vogelgebirge and the Taunus Mts., but the southern parts, stretching into the valley of the Rhine and the Odenwald, are among the mildest regions of Germany.

The chief *rivers* are the *Rhine*, and its tributaries the Main and Neckar.

The divisions and chief towns are:—

1. *Principality of Starkenburg.—Darmstadt* (43,000 inhab.), *Offenbach*, Wimpfen, and the celebrated Bergstrasse.
2. *Rhenish Hesse.—Mainz* (Mayence, 66,000 inhab.), Bingen, Worms.
3. *Upper Hesse.—Giessen.*

The chief *Natural Productions* are wine (4,400,000 gallons), fine fruit, madder, and tobacco; horned cattle; salt at Wimpfen and Theodorshall. The finest Rhine wine ("hock") is produced at Nierenstein, near Worms (Liebfrauenmilch), and on the whole "Bergstrasse."

The *Manufactures* are practically confined to Offenbach, Mainz, Darmstadt, and a few other towns. The leather goods, pocketbooks, and similar productions of Offenbach are of high excellence; Mainz and Darmstadt are noted for their wood and leather goods, carriages, shoes, musical instruments, matches, and machinery.

Hesse carries on an active *Commerce*, consisting largely in its transit-trade, which is facilitated by the Rhine and Main as well as by numerous railways. Mainz, at the junction of the Rhine and Main, is one of the leading railway-junctions and one of the most important depots in all Germany. It is also the centre of the railways of the duchy, 620 miles in length.

ANHALT.

The Duchy of Anhalt, completely surrounded by Prussia and Brunswick, has an area of 870 square miles, and a population of 230,000. The inhabitants are almost exclusively Lutherans, and enjoy a high level of culture.

With the exception of its western part, which is partly occupied by the Harz, Anhalt is perfectly flat. It is traversed by the Elbe, Mulde, and Saale, enjoys a mild *Climate*, and is remarkably fertile. About 23 °/₀ of the surface is covered by forests.

Its chief towns are:—

Dessau (28,000 inhab.), *Köthen*, Nienburg, *Zerbst*, *Bernburg*, *Ballenstedt*, Harzgerode, and *Koswig.*

The leading *Natural Productions* are:—

Grain, beet-root, potatoes, fruit, and timber; horses, horned cattle, and sheep; silver (32,000 oz.), iron, coal (600,000 tons), and salt (500,000 tons).

Besides the articles commonly produced in Germany, Anhalt manufactures machinery (at Dessau), iron goods (at Harzgerode), and large quantities of beetroot-sugar (30 factories; large exports).

Köthen is the centre of the railway system, which, along with the navigable rivers, facilitates trade.

BRUNSWICK.

The Duchy of Brunswick is embraced by Prussia, and has an area of 1530 square miles, with a population of 350,000, almost all Protestants, and distinguished for their high level of cultivation.

Brunswick is rendered partly mountainous by the *Harz Mts.* and the *Weser Hills;* its chief rivers are the *Weser* and its tributary the Aller, which receives the Ocker.

The chief towns are *Brunswick* (85,000 inhab.), Wolfenbüttel, Helmstadt, and Holzminden.

Natural Productions.—The northern plain produces abundant grain, while stock-farming flourishes on the Harz in the south. But the most important industry in the duchy is the *Mining* on the Harz. Iron (200,000 tons), coal, and silver (128,000 oz.) are found.

The *Manufactures* are confined to the larger towns. Beet-root-sugar is made in 36 factories.

The *Trade* is chiefly transit-trade, on the railway from Berlin to Cologne, which intersects the duchy.

Brunswick and Holzminden (on the Weser) are the chief commercial towns.

WALDECK-PYRMONT.

The Principality of Waldeck-Pyrmont has an area of 470 square miles, and a population of 60,000. The chief towns are Arolsen and *Pyrmont*. The latter has a noted chalybeate spring.

LIPPE-DETMOLD AND SCHAUMBURG-LIPPE.

The former of these Principalities has an area of 450 square miles, and a population of 120,000; the latter has an area of 212 square miles, and 35,000 inhabitants. In both states Protestantism is nearly universal.

The capitals are respectively Detmold and Bückeburg.

The soil is well cultivated, and the agricultural produce amply covers the domestic demand.

The manufactures and trade of these little states are of no importance.

OLDENBURG.

The Grand-duchy of Oldenburg is bounded by the North Sea and by Prussia. It has an area of 2420 square miles, and 340,000 inhab., of whom 75% are Lutherans, and the remainder Roman Catholics.

The entire country lies in the great north German plain, and abounds in heath-land, besides the more fertile marsh-land.

The chief river is the *Weser*, with its tributary the Hunte.

The chief towns are *Oldenburg* (21,000 inhab.), Elsfleth-an-der-Weser, and Farell-an-der-Jahde.

The leading *Natural Productions* are cattle, horses, and sheep. Neither the mining nor the manufacturing industry is of note. Live cattle, butter, and cheese are exported in considerable quantities.

Oldenburg has 200 miles of railways, and a mercantile fleet of 340 ships, with an aggregate burden of 76,000 tons.

Its trade is considerable.

MECKLENBURG-SCHWERIN AND MECKLENBURG-STRELITZ.

These Grand-duchies are bounded by Prussia and the Baltic Sea. The coast-line is 115 miles long. The united area is 5830 square miles, and the united population 670,000.

Mecklenburg-Schwerin has 4830 square miles, and 570,000 inhabitants.

Mecklenburg-Strelitz has 1000 square miles, and 100,000 inhabitants.

Nearly all the inhabitants are Protestants; but education is in a somewhat backward state. Ancient customs and antiquated institutions (*e.g.* the diet or estates and the guilds) seriously hinder all modern progress.

Mecklenburg throughout forms a large plain (North German plain), with only a few slight elevations (230 to 500 ft.); but, with the exception of the southern part, it is exceedingly fertile. Upwards of 50% of the area is arable or garden land. There are few forests.

The main stream of this well-watered district is the Elbe, which bounds it on the west; but there are numerous other shorter streams, as well as lakes.

The chief towns are:—

1. *Mecklenburg-Schwerin.*—*Schwerin* (31,000 inhab.); Güstrow; Boitzenburg; *Wismar; Rostock* (39,000 inhab.); Warnemünde.

2. *Mecklenburg-Strelitz.*—*Neu-Strelitz;* Alt-Strelitz; Neu-Brandenburg.

The principal *Natural Productions* are:—

a. Grain, grown by these agricultural states in excess of their domestic needs; leguminous vegetables; potatoes.

b. Heavy draught *Horses*, horned cattle and *Sheep*, of a world-wide reputation, and pigs.

Both agriculture and stock-farming here attain a high level of excellence. Few other countries contain so many or such well-organized model farms.

Minerals, especially metals, are hardly found at all.

Manufactures are not carried on to any great extent. Besides the usual smaller handicrafts, only ship-building (at Wismar and Rostock) and the manufacture of agricultural machines need be mentioned.

Grain, cattle, and animal produce are exported both by land and sea. Rostock and Wismar are the principal seaports. The mercantile fleet of Mecklenburg includes 344 vessels, with a burden of 100,000 tons.

THE HANSE TOWNS.

By the "Hanse Towns" is now meant the three cities of Hamburg, Bremen, and Lübeck,[1] the last survivors of the great mediæval Hanseatic League, which once included 90 cities, and extended over North and South Germany, Russia, England, and Scandinavia, monopolizing the trade of these countries. The league, at the head of which stood Lübeck, has perished; but these three cities have maintained themselves as great independent trading-centres, with a commerce exceeding that of many whole nations.

The three towns, whose importance is closely connected with that of the rivers on which they are situated, resemble each other as well in their situations and political constitutions as in their commercial conditions; so that for the sake of brevity we shall describe Hamburg, the most important, at greater length, and note in reference to the others only those points in which they differ from Hamburg.

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[1] **Almost the whole of Germany has for a considerable period been embraced within the Zollverein or Customs-union, but it was only recently, namely in 1888, that this union was joined by Hamburg and Bremen.—Tr.**

HAMBURG.

Hamburg is situated on the Elbe in 53° 33′ N. lat. and 9° 58′ E. long. The city and its domain have an area of 150 square miles, with a population of 622,000, nearly all of whom, with the exception of 17,000 Jews, are Protestants.

The surface is flat and generally fertile. The soil is so carefully and so thoroughly utilized for the cultivation of grain, vegetables, strawberries, etc., that the country presents the appearance of a garden.

The principal stream is the *Elbe*. The ebb and flow of the tide in this river is felt even at Hamburg, 75 miles from the mouth, so that large sea-going ships are able to ascend to the city itself. The shoals, found only at the mouth of the river, compel ships of the largest tonnage to anchor in the fore-port of Cuxhaven, which is also the pilot-station and quarantine headquarters. Sometimes, though not often, the Elbe at Hamburg is frozen, and all vessels then anchor at Cuxhaven, which is connected with Hamburg by railway. Usually the ice-boats made for the purpose are able to keep the channel open all winter.

Hamburg, with St. Pauli and other suburbs, has a population of 569,000, and is, next to London and Liverpool, the most important trading-centre in Europe. The great importance which Hamburg enjoys as the largest mercantile town in Germany is due to its natural position on the Elbe, which on the one hand admits large sea-going ships to the town, and on the other facilitates an active trade diagonally across the whole of Germany as far as Bohemia. Aided by this great natural advantage, the merchants of Hamburg have founded a commerce which stretches far beyond the German empire—to Belgium, Spain, Scandinavia, etc.

About 500 vessels (200 steamers), with an aggregate burden of 300,000 tons, belong to the port of Hamburg. It stands in regular communication with 54 European and 31 extra-European seaports, by means of 37 lines of steamers. Of these the chief are the Hamburg Amerikanische Paketfahrt-

Actiengesellschaft, the Hamburg-Südamerikanische Dampfschiffahrts-Gesellschaft, the Kosmos Co., Sloman and Co., besides various lines plying to England, Norway, and Sweden.

The most important of these shipping connections are those with *Great Britain* (London, Liverpool, Newcastle, Hull, Leith, Southampton); *Holland* (Amsterdam, Rotterdam); *Belgium* (Antwerp); *France* (Havre, Bordeaux, Marseilles); *Spain; Portugal; Italy; Norway* (Christiania, Bergen, Hammerfest); the *United States* (New York, New Orleans); *West Indies* (Havanna); *St. Thomas; Brazil; Argentine Republic; Chili; Peru; West Africa; Cape Colony; Australia; Polynesia;* and *East Asia*.

About 13,500 sea-going ships annually enter and clear at Hamburg, with an aggregate burden of 7,500,000 tons; besides about 20,000 river-craft from the Upper Elbe, with 48,000,000 tons.

Next to Bremen, Hamburg is the leading *Emigration Port* in Germany. Since 1832 upwards of 2,000,000 emigrants have embarked here for North America.

Among the chief institutions for the encouragement of trade are the *Exchange*, visited by 3000 to 4000 merchants daily, the banks, marine insurance companies, and commission agencies, besides the railways which connect the city with Berlin, Magdeburg, Bremen, Lübeck, and Kiel.

Though the *Manufactures* of Hamburg are considerable in themselves, they are completely overshadowed by the commerce of the town. The chief manufactures are machinery, iron, cigars, walking-sticks, sugar, spirits, and beer. Ship-building, with anchor-casting, sailcloth-making, and all the other cognate industries, is also carried on.

Imports and Exports.—Hamburg, like the other Hanse towns, is emphatically a centre of transit trade. What comes by sea is despatched thence by land; and what comes by land is exported by sea. Nearly every article known to commerce appears in the lists of the exports and imports of Hamburg. Among the more important are colonial produce, particularly coffee, for which Hamburg is one of the chief European markets, coal (from England), petroleum, metals, wine (from France, Spain, and Portugal), hides and skins, and wool. From the interior of Europe come grain, flour, fat cattle, fruit, timber, and all kinds of manufactured articles. The total value of *Imports* is about £110,000,000, chiefly from Great Britain, North America, Brazil, Western America, Cuba, China, India, France, Holland, and Belgium. In recent years the South American trade has largely developed.

The *Exports* are little inferior to the imports in value, so that the total foreign trade of Hamburg, dealing with all quarters of the globe, amounts to a value of upwards of £200,000,000.

BREMEN.

Bremen, in N. lat. 53° and E. long. 8° 51′, is situated 30 miles from the sea, on the Weser, which, however, only permits vessels of less than 7 ft. draught to ascend to the town. Heavier ships unlade at Vegesak or Bremerhaven.

The area of the town and its domains is 100 square miles, with a population of 166,000, chiefly Protestants (6000 are Roman Catholics, 800 Jews). The surface, which is fertile, is very flat, and is protected by dykes at certain places. The chief rivers are the Weser, and the Geeste near Bremerhaven.

The town of *Bremen* contains 118,000 inhab.; *Bremerhaven*, with 16,000 inhab., is the harbour proper of Bremen.

The foundation of Bremerhaven in 1830 at the mouth of the Weser, on what had formerly been Hanoverian soil, put an end to the period of depression which had prevailed in Bremen since the close of the Thirty Years' War, and gave the merchants of Bremen the opportunity of raising the commerce of the city to its present high level.

Bremerhaven is accessible by the largest sea-going ships, and it has the advantage over Hamburg of being almost never frozen.

Bremen owns a mercantile fleet of 357 vessels (111 steamers), with an aggregate burden of 300,000 tons. The finest vessels are the gigantic steamers of the North German Lloyd (Norddeutsche Lloyd; 50 steamers, 90,000 tons), which ply regularly between Bremen and North America.

The shipping trade of Bremen receives a powerful impulse from the fact that the chief stream of emigration from Germany flows through that port. The great majority of German emigrants embark for America either in the vessels of the North German Lloyd or of the Hamburg Steam Packet Co. Between 1832 and 1886 upwards of 2,000,000 emigrants have set sail from Bremen.[1]

Imports and Exports.—The trade of Bremen is not on the same world-wide scale as that of Hamburg. It is chiefly carried on with *America* (New York, Baltimore, and Havanna), *Great Britain*, and the *German Customs Union*. The chief *Imports* by sea are petroleum, rice, tobacco, cotton, coffee, sugar, tea, grain, wine, oil, spices, and English goods. Much more of its imports by land are brought by railway than by the river-craft of the Weser. They consist chiefly of German goods for re-exportation. The total value of the foreign trade is estimated at £50,000,000.

About 5000 vessels (25% to and from America), with a burden of 1,700,000 tons, enter and clear the port annually.

Almost the same manufactures are carried on in Bremen as in Hamburg. Chief among these are rice, cigars, machinery, beer, and spirits. Ship-building also flourishes.

Bremen contains an exchange, important banks, insurance companies, etc.

LÜBECK.

Lübeck, in 54° N. lat. and 10° 50′ E. long., occupies, with its domains, an area of 130 square miles, and has a predominantly Protestant population of 67,000. The flat and fertile land is traversed by the Trave, which has recently been made navigable as far as the town for ships of considerable size. Very large vessels, however, must still unlade at Travemünde.

The town of *Lübeck* (57,000 inhab.), which still retains an

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[1] *Emigration viâ Bremen and Hamburg to America:*

	Viâ Bremen.	*Viâ* Hamburg.
1884,	75,776	49,985
1885,	53,328	35,335
1886,	40,224	25,714

old-fashioned air, was formerly, as the head of the great Hanseatic League, one of the most important cities in Europe, controlling the northern trade by means of its factories at Novgorod, London, Bergen, and Bruges. Its importance, however, has steadily waned since the Atlantic Ocean became the chief thoroughfare for maritime trade; and it is now distanced even by the Prussian seaports of Dantsic, Stettin, and Königsberg.

Lübeck, however, is still one of the leading commercial towns and transit centres of Germany. On the one hand it retains many of its commercial relations with Russia, Sweden, and Denmark, and on the other it carries on much of the trade between Hamburg and the interior of Germany.

The *Manufacturing Activity* (ship-building, tobacco, leather) has also considerably increased within the last few years.

The mercantile fleet of Lübeck embraces 35 vessels (29 steamers) of only 11,000 tons burden, plying almost exclusively within the *Baltic Sea*. It has regular steam communication with *Russia* (St. Petersburg, Riga), *Sweden* (Malmö, Gothenburg, Stockholm), *Denmark* (Copenhagen), *Prussia* (Swinemünde, Kiel, Dantsic, Königsberg), and *England*.

About 4400 vessels (700,000 tons), one-third of which are Russian, annually enter and clear at the port of Lübeck. Its traffic with transatlantic ports is carried on *viâ* Hamburg, with which Lübeck is connected by the Stekenitz Canal (since the 14th century) and by railway.

Imports and Exports.—The chief *Imports* by sea are Russian raw productions (grain, timber, tar, furs, hemp, and tallow), Swedish productions (timber, iron, pottery), English coals, colonial produce, and petroleum. The leading *Exports* are German manufactured goods.

BAVARIA.

Situation and Boundaries.—The kingdom of Bavaria consists of two parts of unequal size, viz. *Bavaria Proper*, to the east, and the smaller *Bavarian Palatinate*, on the Rhine, to the west.

The eastern part lies between 47° 16′ and 50° 33′ N. lat., and between 8° 59′ and 13° 50′ E. long.; the Palatinate between 49° and 50° N. lat., and between 7° 4′ and 8° 30′ E. long. The former is bounded by Saxony, Austria-Hungary, the Lake of Constance, Württemberg, Baden, and Hesse; the latter by Hesse, Rhenish Prussia, Baden, and Alsace and Lorraine.

Population.—Bavaria is the second largest state in Germany, having a total area of 29,600 square miles and a population of 5,400,000. Bavaria proper has an area of 27,300 square miles and 4,600,000 inhabitants; the Palatinate has 2300 square miles and a population of more than 700,000. About 3,900,000 of the inhabitants are Roman Catholics, 1,500,000 Protestants, and 54,000 Jews. Judged by the standard of language, the entire population is German, with the exception of a few thousand French in the Palatinate.

The Palatinate is the most densely-peopled region (292 per sq. m.); Upper Bavaria the most sparsely-populated (146 per sq. m.). The average for the whole country is 182 per square mile.

The people are not so highly educated as the Prussians or Saxons, but fully as well as the inhabitants of the German provinces of Austria. Government has recently devoted much attention to this subject; and most of the schools are now excellently organized and well attended. In addition to numerous primary and secondary schools, educational institutions of a directly practical character are not wanting, such as agricultural, technical, and commercial schools. More attention has been paid in modern times to art than to perhaps any other subject, and this branch of culture is more carefully encouraged in Bavaria than in perhaps any other country in Europe.

PHYSICAL FEATURES AND CLIMATE.

Bavaria is to a great extent covered by mountains and hills. The chief ranges are:—

1. In Bavaria proper. In the S. the *Alps* (Allgau, Tyrolese, and Salzburg Alps), rising to upwards of 9800 ft. (Zugspitze,

Watzmann, etc.); in the N.E. the parallel ranges of the *Bohemian Forest* (Böhmerwald, 4900 ft.) and the *Bavarian Forest* (Bayerischerwald, 4900 ft.); in the W. the *Fichtelgebirge* and the *Franconian Forest* (Frankenwald); and the N.W. branches of the *Swabian Jura*, *Franconian Jura*, *Spessart*, *Rhön*, and *Steigerwald*.

2. In the Palatinate. The *Vosges*, the *Hardt*, and the *Donnersberg* (2300 ft.).

The Bavarian plateau stretches between the Alps and the Danube, and embraces swamps and heaths miles in area.

Bavaria includes very various *Climates*. The southern regions near the Alps and in the Fichtelgebirge and the Bavarian Forest are cold and barren, but the districts on the Rhine are among the mildest and pleasantest in Germany. Even almonds and chestnuts ripen in the open air in the Rhenish Palatinate.

The average temperature varies from 48° to 50° F.[1]

The principal *Rivers* are:—

The *Danube*, receiving on the right the Lech (with the Loisach), the Isar, and the Inn (with the Salzach), and on the left the Altmühl, the Naab, and the Regen. The whole Bavarian course of the Danube is navigable; steamers begin to ply upon it at Ratisbon.

The *Main*, with the Saale on the right and the Regnitz on the left, has also steamboat traffic.

The *Rhine* traces the boundary for 46 miles, receiving from Bavarian territory the Lauter and the Nahe.

The regulation of the river channels has only been partially carried out in Bavaria.

The most important *Canal* is the *Ludwigs-Canal* (110 miles), connecting the North Sea with the Black Sea by linking the Main and the Danube; but it is no longer large enough for the requirements of modern traffic. In the Palatinate the chief canal is that of Frankenthal.

Among the famous Bavarian *Lakes* the chief are König-See, Chiem-See, Starnberger-See, Ammer-See, and the *Lake of Constance*.

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[1] The mean temperature in January at Munich is 32·3° F., in July 62·6° F.; Würzburg has 33·6° F. and 66° F.; Kempten 27·5° F. and 66·4° F.

CHIEF TOWNS.

Bavaria is divided into eight administrative divisions (Kreise), the chief towns of which are as follows:—

1. *Upper Bavaria.—Munich* (München, the "German Athens," 350,000 inhab.); *Ingolstadt;* Freising; Rosenheim; Traunstein; *Reichenhall;* Berchtesgaden.

2. *Lower Bavaria.—Landshut;* Passau; Straubing; Kelheim.

3. *Upper Palatinate* (Ratisbon). — *Ratisbon* (Regensburg, 36,000 inhab.); Amberg; Cham.

4. *Upper Franconia.—Bayreuth;* Bamberg; Hof; Wunsiedl.

5. *Central Franconia.—Ansbach; Nürnberg* or Nuremberg (115,000 inhab.), the chief industrial town in the south-west of Germany; Fürth (35,000 inhab.); Erlangen; Eichstädt; Weissenburg, Schwabach; Spalt; Uffenheim.

6. *Lower Franconia* and *Aschaffenburg.—Würzburg* (55,000 inhab.); Aschaffenburg; Schweinfurt; Kissingen; Kitzingen.

7. *Swabia* and *Neuburg.—Augsburg* (66,000 inhab.); Donauwörth; Nördlingen; Solenhofen, in the Allgäu; Memmingen; Kaufbeuern and Kempten; *Lindau,* on the Lake of Constance.

8. *Rhenish Palatinate.—Spires* (Speier, 17,000 inhab.); Kaiserslautern; St. Ingbert; Landau; Ludwigshafen; Zweibrücken.

NATURAL PRODUCTIONS.

1. **Agricultural Products.**—Bavaria is an agricultural state; 41% of its area is arable and garden land, 20% meadow and pasturage. The most fertile districts are in the valleys of the Danube and its tributaries, and of the Main and Rhine. Agriculture reaches its highest level in the Rhenish Palatinate, where the products of the soil are most varied, but it also flourishes in Lower Bavaria (near Nördlingen) and in Lower Franconia (Schweinfurter Gau). The chief crops in these districts are *Rye* (3,090,000 qrs.), *Wheat* (1,720,000 qrs.), *Spelt* (690,000 qrs.), *Barley* (2,400,000 qrs.), and *Oats* (4,120,000 qrs.).

Potatoes (about 88,000,000 bushels) are cultivated in all parts of the country.

Flax and *Hemp* are raised to the amount of 400,000 cwts.; *Tobacco*, chiefly in the Palatinate, about 200,000 cwts.

Hops are grown in large quantities (annual average 220,000 cwts.) especially in Central Franconia.

Wine is produced in the Palatinate, on the Main, and on the Lake of Constance. The annual yield is nearly 6,600,000 gallons, or about $\frac{1}{6}$ of the total production of the German Customs Union.

Bavaria possesses richer stores of *Timber* than most European states; $\frac{1}{3}$ of the entire surface is occupied by forests. Most of the timber is obtained from the slopes of the Alps, the Bavarian Forest, the Fichtelgebirge, and the Spessart. Beeches prevail in the Rhenish Palatinate.

Meadow-farming is making steady progress.

2. **Live Stock.**—Bavaria raises enough live stock not only to meet the domestic demand but also to maintain an export trade.

The leading branch of stock-farming is the breeding of *Horned Cattle* (3,500,000 head), especially among the Alps (Allgau breed), where the herds are managed in the Tyrolese or Swiss mode. Butter and cheese are produced in great quantities.

Pigs (900,000) are bred in large numbers, especially in Upper and Lower Bavaria, whence whole herds are driven to France.

Neither the *Horses* (350,000), which are most numerous in Lower Bavaria and Central Franconia, nor the *Sheep* (1,500,000) of Bavaria are of so much importance.

Bee-keeping flourishes in the Palatinate and Franconia, where there are upwards of 340,000 hives.

Bavaria also offers good *hunting* and *fishing*.

3. **Minerals.**—Bavaria is very poor in minerals, having especially little coal. The meagre annual production includes 550,000 tons of *Coal*, 40,000 tons of *Iron*, and 50,000 tons of *Salt*. Much coal and iron has to be imported.

Excellent *Marble* is yielded at Kelheim; *Lithographic-stones* at Solenhofen, and *Graphite* (1000 tons) in Lower Bavaria (in the Bavarian Forest, used for crucibles at Passau, and for lead-pencils). Potters' clay, bricks, and good building-stone are also found.

The most noted of the *Mineral Springs* are those of Kissingen (Rakoczy Spring), Reichenhall, and Tölz.

MANUFACTURES.

Bavaria is not an industrial state. Many branches of industry have certainly made considerable advance in recent times, and the abundant water-power is now more generally turned to account, but the wholesale manufactures of the country are still far from meeting the domestic demand, while even the smaller handicrafts lag behind those of other nations. The most important manufacturing towns in Bavaria are Munich, Nuremberg, and Augsburg.

The leading industry is *Brewing*, in which Bavaria distances all other German states. Bavarian beer is brewed in about 7100 breweries to the annual amount of 275,000,000 gallons, and it is exported all over the world.

The produce of both the *Textile* and *Metal Industries* falls far short of the domestic demand, both in quantity and quality.

Leather, *Glass*, and *Wooden Wares* are manufactured in large quantities in the Bavarian Alps and in the Bavarian Forest. Munich produces machinery, pottery, optical instruments, and gilt-ware.

Nuremberg occupies a unique position in regard to its industries. For centuries it has been the leading manufacturing town in the country.[1] For centuries the multifarious Nuremberg trinkets and small goods have been produced here for exportation to all parts of the world, including toys, spectacle-glasses, knives and forks, glass beads and marbles, small brass watches, etc., etc. Besides these peculiarly characteristic trinkets, the town also produces dyes (ultramarine), lead-pencils (Faber's manufactory), cigars (the largest factory in Bavaria), beer, glass, leather, paper, machinery, mathematical instruments, steel and gut strings, tin-foil, and gilt-wire. For gold and silver repoussé-work Nuremberg is unsurpassed in Europe.

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[1] The draw-plate for wire-making was invented at Nuremberg in 1440, watches in 1500 (by Peter Helle), and at later periods brass (by Peter Ebner), the air-gun, the press for metal figures, the fire-lock, and the clarionet, were also invented here; while wood-carving and map-drawing were much improved.

Fürth, an adjoining town, in which similar industries to those of Nuremberg are carried on, is practically a suburb of Nuremberg.

TRADE AND COMMERCE.

The commerce of Bavaria centres in its *Transit Trade.* Bavaria carries on trade between the Middle Rhine and the Middle Danube on the one hand, and between the rich grain-fields of Austria-Hungary and the scantily-supplied Switzerland on the other. The completion of the Arlberg Railway, however, will divert much of this traffic from Bavaria.

Traffic and commerce are facilitated by the navigable rivers (Danube, Main, and Rhine), canals, numerous good roads, and railways, of which there are 3100 miles, mostly in the hands of government, as well as by the telegraph system, banks, exchanges, insurance offices, etc. The Danube is navigated by the steamers of the Austria-Hungarian Danube Steamship Company, and of the South German Danube Shipping Company; and the Lake of Constance by railway ferry-steamers.

The centres of trade are *Munich*, *Nuremberg*, *Augsburg*, *Lindau*, Fürth, Hof, Ratisbon, Passau, and Ludwigshafen.

Augsburg is the leading money-market in the south of Germany, and maintains an extensive transit-trade with Italy.

The chief markets are: for *Grain* at Munich and Lindau; for *Wool* at Augsburg; for *Cattle* at Sonthofen; for *Hops*, at Nuremberg and Spalt.

Imports and Exports.—The chief *Imports* are cotton, wool, silk, furs, skins, colonial produce, southern fruits, wine, oil, iron, petroleum, and manufactures of all kinds.

The chief *Exports* are grain (to Switzerland, Tyrol, Salzburg, and France), cattle, hops, timber, Kelheim marble, lithographic-stones (from Solenhofen), wine, beer, machinery (printing-presses), Nuremberg goods, damask, and musical and optical instruments.

WÜRTTEMBERG.

Situation and Population.—The Kingdom of Württemberg lies between 47° 34′ and 49° 35′ N. lat., and between 8° 15′ and 10° 30′ E. long., and is bounded by Bavaria, Hohenzollern, Baden, and the Lake of Constance. It contains an area of 7530 square miles, with an exclusively Germanic population of 2,000,000, of whom about two-thirds are Protestants and one-third are Roman Catholics; 13,000 are Jews. The average density of the population is 256 per square mile, rising to 512 in the plains, and falling to 180 among the mountains.

Education has attained a high level of excellence all over Württemberg, and has penetrated to the lowest classes of the inhabitants.

PHYSICAL FEATURES AND CLIMATE.

Speaking generally Württemberg is more mountainous than flat. The chief mountain ranges are the *Rauhe Alp* (Swabian Jura), rising to the height of about 3000 ft., and intersecting the country from south-west to north-east; and the *Black Forest*, in the west, rising to the height of 3900 ft.

The numerous passes among these mountains greatly facilitate trade.

The chief rivers are the *Neckar*, which has a course of 170 miles within Württemberg, and receives as tributaries the Enz, Kocher, Jagst, etc., and the *Danube* (65 miles), which becomes navigable near Ulm, on the boundary.

The *Lake of Constance*, which forms the southern boundary for 16 miles, is of great importance for the trade with Switzerland. The smaller lakes of Württemberg are of no importance.

The *Wilhelms Canal* is the chief canal.

The most fertile and mildest regions are in the basin of the Neckar and near the Lake of Constance; while the mountainous districts are cold and unproductive. The annual mean temperature of Stuttgart is 48° F. (Jan. 31°, July 67° F.). Wide marshy heaths stretch to the south of the Rauhe Alp.

CHIEF TOWNS.

Württemberg is divided into four administrative "circles" (Kreise).

1. *Neckar Circle.—Stuttgart* (126,000 inhab.); *Cannstatt;* Heilbronn (28,000 inhab.); Esslingen (21,000 inhab.); Hohenheim.

2. *Black Forest Circle.* — *Reutlingen; Urach;* Tübingen; Ehingen; *Calw;* Tuttlingen.

3. *Danube Circle.—Ulm* (34,000 inhab.); Göppingen; Biberach; *Friedrichshafen.*

4. *Jagst Circle.—Ellwangen;* Aalen; Gmünd; Hall (Schwäbisch-Hall); Heidenheim; Mergentheim.

NATURAL PRODUCTIONS.

1. **Agricultural Produce.**—Württemberg is an agricultural country. About 46% of its area is arable and garden ground, 18% meadows and pasturage, 31% forest. In few countries of the earth has farming reached such a pitch of excellence as in Württemberg.

The most important crops are: spelt (6,000,000 cwts.) and other grains, potatoes (20,000,000 bushels), cauliflower, wine (5,500,000 gals.), and fruit.

The *Timber* of the Black Forest, and other districts, forms one of the chief sources of wealth to Swabia; for a very active trade in timber is carried on between the Black Forest and Holland. Forestry and everything connected with it stand on a very high level of excellence in Württemberg.

2. **Live Stock.**—*Stock-farming* also receives a considerable share of attention; horned cattle (1,000,000 head), horses, and sheep are bred with care.

Amongst the other noteworthy industries are *Bee-keeping* and the breeding of *Snails,* partly for export, partly for home consumption, and the *Dog-breeding* at Leonberg and Stuttgart.

3. **Minerals.**—Württemberg is not very rich in minerals. The most important are *Salt* and *Iron.* About 110,000 tons of

salt, more than sufficient to meet the domestic demand, are produced in the government salt-works at Sulz, Friedrichshall, Clemenshall, and Wilhelmshall.

Iron (10,000 tons), is found at Wasseralfingen near Aalen, and near Neuenberg; most of the mines belong to government. Little or no *Coal* is found, but potters' clay, cement, and various useful kinds of stone are worked.

MANUFACTURES.

The manufacturing industry of Württemberg occupies a very creditable position among the states of Germany. The manufactures are very various, and command an extensive foreign demand, while they are powerfully supported by the central bureau for trade and manufactures at Stuttgart as well as by the maintenance of large public collections of patterns and models. The leading products of the Swabian manufactures are as follows:—

Cotton (300,000 spindles), chiefly at Heidenheim, Stuttgart, Calw, and Blaubeuern.

Woollens (60,000 spindles), at Reutlingen, Heidenheim, Calw, and Esslingen (felt and haircloth).

Linen.—This industry has so far recovered from a long period of depression, that Württemberg linens are now on a level with Irish and Rumburg manufactures, both in point of texture and of colour and finish.

Dying is carried on at Göppingen, Urach, Heidenheim, and Reutlingen.

Corsets and *Lace* are manufactured to a considerable extent at Stuttgart and Reutlingen.

The *Iron Industry* is most developed at Aalen, Neuenburg, Esslingen, and Stuttgart.

Oberndorf has a *Small-arms* factory.

Wooden Goods come from the Black Forest, and from Geisslingen ("Dutch Clocks").[1]

Ulm is famous for its *Pipe-bowls.*

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[1] So called because, though made in the Black Forest, they are imported into England *viâ* Holland.—TR.

Stuttgart has large *Printing-works,* and manufactures mathematical, physical, and musical instruments, furniture, and fancy goods. The *Organs* of Ludwigsburg enjoy a high reputation.

TRADE AND COMMERCE.

The traffic and commerce of Württemburg, depending to a large extent upon its transit-trade, is facilitated by a highly-organized railway system (1000 miles of lines), centring at Stuttgart.

The principal **Exports** are fat cattle, timber, grain, salt, and the products of the manufactories mentioned above.

Stuttgart, Reutlingen, Ulm, Heilbronn, Calw, and *Friedrichshafen* are the principal trading towns. The last-named, on the Lake of Constance, carries on trade with Switzerland, chiefly in grain and salt, while it also maintains active steamboat communication with all the principal ports on the lake. Railway ferry-boats.

BADEN.

Situation and Population.—The Grand-duchy of Baden lies between 47° 32′ and 49° 46′ N. lat., and between 7° 36′ and 9° 50′ E. long.; and is bounded by Hesse-Darmstadt, Bavaria, Württemberg, Hohenzollern, the Lake of Constance, Switzerland, Alsace-Lorraine, and the Bavarian Palatinate.

Baden has an area of 5960 square miles, with 1,600,000 inhabitants, of whom upwards of two-thirds are Roman Catholics and the remainder Protestants, with the exception of 27,000 Jews. The people is an exclusively Germanic stock. The density of the population varies from 174 per square mile in the mountains to 410 per square mile in the Rhineland.

Education is on a high level, and is well distributed among all classes of society. Besides primary schools, Baden contains many advanced and technical schools.

PHYSICAL FEATURES AND CLIMATE.

Baden must be included in the South German mountain district, though a considerable part of the country belongs to the plain of the Rhine. The chief mountain-ranges are the

Black Forest (5000 ft.), with its romantic valleys, which runs parallel with the Rhine, and the *Oldenwald* (2000 ft.) in the north.

The valley of the Rhine and the neighbourhood of the Lake of Constance enjoy one of the mildest climates in all Germany (mean annual temperature 50° F.[1]); but the climate of the mountain districts is severe, and subject to extremes; the winters in the Black Forest are often very severe.

The chief rivers are the *Rhine* (the channel of which is regulated), with its tributaries the Neckar and Kinzig, and the *Danube*, which rises in the Black Forest and flows for 22 miles under the name of Brege to join the Brigach at Donaueschingen, beyond which it assumes the name of Danube. The Main just touches the northern boundary of Baden.

The Lake of Constance is the most important lake.

CHIEF TOWNS.

Carlsruhe (61,000 inhab.); Pforzheim (27,000 inhab.); Rastadt; Baden; Kehl; Offenburg; Lahr; *Freiburg* in the Breisgau (41,000 inhab.); Ettenheim; Fürthwangen; Lörrach; Säckingen; Waldshut; *Constance;* Donaueschingen; Villingen; Neustadt; *Mannheim* (61,000 inhab.); Weinheim; Heidelberg (27,000 inhab.); Mosbach; Wertheim.

NATURAL PRODUCTIONS.

The naturally very fertile soil of Baden is cultivated with great industry and abundant skill, so that its produce amply meets the domestic demand and has a surplus for export. *Grain* flourishes especially in the plain of the Rhine and near the Lake of Constance. Spelt (515,000 qrs.), the principal bread-stuff of the country, is the chief crop.

Wine of excellent quality (5,500,000 gals.) is produced in the valley of the Rhine. Markgräfler, Wertheimer, Affenthaler, etc. are esteemed varieties.

Fruit is very abundant. *Tobacco* (one-third of the total produce of Germany), *Hops*, and *Hemp* are cultivated with great skill and in great quantities.

[1] Mean temp. at Heidelberg in Jan. 34·8° F., in July 67° F.

Timber is floated down the Rhine in large quantities.

Stock-farming is in a very flourishing state, owing to the fine meadows and the energetic efforts to secure good breeds of horses, cattle, and sheep, though the total number of animals is not large.

The *Mining* of Baden is unimportant (a little iron and salt), but its *Mineral Springs* enjoy a wide reputation, especially those of Baden-Baden, Badenweiler, Kniebis, Rippoldsau, etc.

MANUFACTURES.

Baden, like Württemberg, carries on very varied manufactures, and to a great extent for export. In certain branches great perfection has been attained.

The most conspicuous manufactures are:—

Cotton (400,000 spindles), linen (at Offenburg), beetroot-sugar (at Waghäusl), iron goods (at Carlsruhe and Mannheim), *Machinery* (at Carlsruhe), india-rubber, chemicals (at Mannheim), and beer (22,000,000 gallons).

The *Porcelain-buttons*, etc., of Freiburg are sent all over the world.

Wooden Goods, *Clocks* and *Musical-boxes*, and furniture are made in the Black Forest. Mannheim also makes furniture.

About 7000 workmen are employed in the manufacture of the *Goldsmiths'* and *Silversmiths' Work* of Pforzheim.

TRADE AND COMMERCE.

Baden carries on a considerable trade on its own account, while a transit trade is also encouraged by the situation of the country. The Rhine and the Neckar, as the main arteries of the river traffic to Holland, and the Lake of Constance are of high importance for both these branches of trade. Both the Rhine and the lake are enlivened with steamers belonging to Baden (railway-ferry on the Lake of Constance). Carlsruhe and Mannheim are the chief centres of the railway system, which has 840 miles of lines.

Mannheim is the chief commercial town, not only of Baden, but also of the whole of South-western Germany. It is situated at the junction of the Neckar and the Rhine, at the point where the latter, becoming less rapid in its course, first admits of regular steam navigation. The town with its spacious river harbour, visited yearly by thousands of vessels, is thus an important transhipping centre, as well as the chief market in Germany for grain, hops, tobacco, petroleum, and coal. It carries on the most extensive commission business in South-western Germany. Constance, with active trade on the lake of that name, and Carlsruhe rank next in commercial importance.

The chief *Exports* from Baden are timber, tobacco, hops, hemp, and the above-mentioned manufactures.

ALSACE-LORRAINE.

Situation and Population.—The "Imperial Province" (Reichsland) of Alsace-Lorraine lies between 47° 25′ and 49° 30′ N. lat., and between 23° 33′ and 25° 53′ E. long., and is bounded by France, Luxembourg, Germany, and Switzerland. Its German name is Elsass-Lothringen.

It embraces an area of 5580 square miles, with a population of 1,600,000. The inhabitants are partly French (300,000) and partly Germans, the former predominating in Lorraine, the latter in Alsace. Most of the inhabitants can speak both French and German.

All the inhabitants are Roman Catholics, with the exception of about 300,000 Protestants and 40,000 Jews.

PHYSICAL FEATURES AND CLIMATE.

Most of the surface is occupied by mountains and hills. The chief range is the Vosges, which traverse the country from north to south, rising in some points to an elevation of 4600 ft. (Sulzer Belchen or Ballon de Soultz, 4677 ft.).

The principal rivers are the *Rhine*, with its tributary the Ill, and the *Moselle*, with its tributary the Saar.

Under French rule Alsace-Lorraine was provided with a system of *Canals*, from 3 to 5 ft. deep, connecting the Rhine with all the river-systems in France. The chief of these canals are those between the Rhine and Rhone, the Rhine and Marne, and the Saar Canal.

The *Climate* is good (50–53° F.[1]). The *Soil*, especially in the great Alsatian plain (1200 sq. miles), is well-watered and fertile.

DIVISIONS AND CHIEF TOWNS.

1. *Lower Alsace.*—*Strassburg* (112,000 inhab.); Schlettstadt; Hagenau.
2. *Upper Alsace.*—*Colmar* (26,000 inhab.); Gebweiler; Thann; *Mühlhausen* (70,000 inhab.).
3. *German Lorraine.*—*Metz* (53,600 inhab.); Thionville or Diedenhofen; Château-Salins (Salzburg); Saarburg.

NATURAL PRODUCTIONS.

Agriculture.—About 50% of the area is arable and garden land; and the striking prosperity of the Alsatian peasantry bears witness to the skilful manner in which the soil is farmed. Grain (especially *Wheat*) is raised in sufficient quantities to meet the domestic demand. *Wine* is produced in a proportion equalled in no other German state; the average vintage yields about 22,000,000 gallons. Hops, nuts and other fruit, hemp, tobacco, madder, leguminous vegetables, are universally cultivated with much success.

The forests of the Vosges yield much valuable timber.

Stock-Farming has not attained any great importance; but at Hüningen on the Rhine there are large fish-breeding ponds, which annually export millions of salmon eggs.

Among the **Minerals** are *Iron* (300,000 tons) in the Vosges, *Coal* (600,000 tons) in the valley of Saar, copper in Alsace, rock-salt and evaporated salt in Lorraine (50,000 tons), mineral oil and asphalt at Lobsann.

MANUFACTURES.

Alsace and Lorraine, especially the former, are among the busiest industrial lands in Europe. The *Cotton* and the *Metal Industries* occupy the most important position among the numerous manufactures.

[1] Mean temp. at Strassburg in Jan. 31°, in July 64·5°.

The Alsatian *Cotton Industry* claims the first position among all the states of Germany. It flourishes chiefly in Upper Alsace, and centres at Mühlhausen, which distances even the Saxon Chemnitz in importance. About 1,500,000 spindles are engaged in this industry. For texture, bleaching, and finish, and still more markedly for colour-printing, Alsatian cottons have no rivals in Germany.

Mühlhausen is also the centre of the *Metal Industry*, where iron and steel goods of every kind, especially excellent machinery and weapons, are produced.

Of inferior importance are the manufacture of woollens (200,000 spindles), linen, wall-papers (at Mühlhausen), leather, glass, pottery (Lorraine), wooden-ware (Strassburg), chemicals (Strassburg and Dieuze), tobacco (in the imperial factory at Strassburg), clocks, surgical instruments, etc.

TRADE AND COMMERCE.

The vigorous commerce of Alsace-Lorraine is facilitated by rivers, canals, and 800 miles of railways. It consists partly of traffic in the above-mentioned manufactures of the country, and partly of a considerable transit-trade.

The chief commercial town is *Strassburg*, which is one of the most important railway-junctions in Europe, and one of the leading markets for wine, grain, and hops, besides carrying on an extensive forwarding-trade, *viâ* the Rhine. Metz and Mühlhausen are less important.

CONCLUSION.

A few words must be added in conclusion to afford a general glimpse of the aggregate trade and traffic of the German Empire.

Germany occupies the most central position in Europe, among states which are almost all in intimate geographical relations with some part of it. On the north it touches the North Sea, one of the most frequented seas in the world, and the sea into which the Rhine and Elbe, the two largest German rivers, discharge themselves; on the east it is adjoined by mighty states which are distinguished for their production of raw material, and on the west by states no less distinguished for their highly-developed manufacturing industry.

This situation makes it abundantly clear that a great part of the trade of Europe must pass through Germany, and that the foreign trade of that country must consist, broadly speaking, in exporting manufactures to the east and raw material to the west.

The chief *Exports* have already been mentioned in connection with the different states. The chief *Imports* of the empire, arranged according to their value, are the following (1891): grain (£24,400,000), wool (£12,400,000), cotton (£11,700,000), live-stock (£11,600,000), coffee (£11,000,000), hides, skins, and leather (£7,200,000), raw silk (£6,880,000), timber (£6,850,000), yarn, petroleum, tobacco, flax and hemp, drugs and chemicals, resin, tallow, oil, seeds and fruits, manures, copper, textile fabrics.

The German Customs Union (*i.e.* the German Empire, excluding certain small portions,[1] but with the addition of Luxembourg) imported goods in 1891 to the value of £207,500,000; and exported goods to the value of £158,770,000.

The *Mercantile Fleet* of Germany in 1892 consisted of 3639 ships, with a burden of 1,468,000 tons, including 941 steamers of 764,000 tons burden. In 1891 68,747 ships (14,800,000 tons) entered, and 68,652 ships (14,795,000 tons) cleared at German ports. More than half the tonnage was under foreign flags.

Germany possesses in all about 26,627 miles of *Railways*, of which only 3000 miles are managed by private companies.

The *Telegraph* system comprises 57,500 miles of lines with 238,500 miles of wires, and over 20,000,000 of inland messages and 9,000,000 foreign are despatched annually.

The German *Postal-Service* has over 26,000 offices, and transmits more than 1,500,000,000 letters and post-cards, besides parcels and money orders, the aggregate value of the last being over £1,100,800,000.

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[1] See foot-note on p. 237.—TR.

GERMAN COLONIES.

Hitherto an exclusively European power, Germany has recently acquired the following colonial possessions.

1. *In Africa.* **Togoland** and **Little Popo**, with Porto Leguro (400 sq. m.), on the Slave Coast.—**Cameroon** (115,000 sq. m.) on the Gulf of Guinea.—**Damaraland** and **Great Namaqualand** (including *Angra Pequena*), with the omission of Walfish Bay, an area of about 230,000 square miles, lying between the Orange River and 22° s. lat.—In *Eastern Africa* a vast territory of about 450,000 square miles (*Usagora*, *Witúland*, etc.), formerly in part under Zanzibar, stretching south from Kilimanjaro, is now within the sphere of German influence.

2. *In Polynesia.*[1] **Kaiser Wilhelm's Land** (70,000 sq. m.) on the north coast of New Guinea.—The **Bismarck Archipelago,** including the islands formerly known as *New Britain*, *New Ireland*, and the *Admiralty Islands.*—Some of the **Solomon Islands** and **Marshall Islands.**

All those possessions are situated in the torrid zone, and are still in their primeval condition. Their value for German trade and German emigration has yet to be shown; it still lies in the future.

AUSTRIA-HUNGARY.

SITUATION, AREA, AND BOUNDARIES.

The Empire of Austria-Hungary is situated between 42° 10′ and 51° 3′ N. lat., and between 9° and 26° E. long. It is bounded on the north by Saxony, Prussia, and Russia; on the east by Russia and Roumania; on the south by Roumania, Servia, Turkey, Montenegro, the Adriatic Sea, and Italy; and on the west by Switzerland, Liechtenstein, and Bavaria. The empire, which embraces an area of 243,000 square miles, is divided into two principal parts—the *Empire of Austria*, or the lands represented in the imperial Austrian diet, and the *Kingdom of Hungary*, with a diet of its own.[2]

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[1] See foot-note on p. 147.—TR.

[2] The former is frequently spoken of as *Cisleithania*, the latter as *Transleithania*, from the river Leitha, which forms part of the boundary between them.—TR.

Austria Proper has an area of 112,000 square miles, and a population of 22,000,000. The various provinces which it embraces are mentioned at pp. 273–275. The **Kingdom of Hungary** includes Hungary proper and Transylvania (Siebenbürgen), Fiume, Croatia, and Slavonia, with a total area of 127,000 square miles, and a population of 15,700,000. Since the Congress of Berlin, Bosnia and Herzegovina, an area of 20,500 square miles, with 1,180,000 inhabitants, have also been under the administration of Austria-Hungary.

Population.—In point of density the population of the empire, especially in Hungary, is distributed with tolerable uniformity. The average, however, is far exceeded in northern Bohemia, where the districts of Rumburg, Gablonz, and Schluckenau have respectively 937, 696, and 653 inhabitants per square mile. The sparsest population in Austria (30–35 per sq. m.) is found in Salzburg and Northern Tyrol. In Hungary the most densely peopled district is the countship of Varasdin (217 per sq. m.), the most sparsely peopled the countship of Marmaros (56 per sq. m.).

The Austria-Hungarian monarchy by no means exhibits that unity of nationality which prevails in the western states of Europe. It includes four principal races, three of which (Germans, Slavs, and Romanians) are widely represented elsewhere in Europe, while the fourth (Magyars) is confined to a restricted area. These races all differ in language from each other. The most numerous is the Slavonic race (17,700,000; 45%), which is subdivided into the *Northern Slavonic Peoples*, including the Czechs, Moravians, Slovaks (7,100,000), Poles (3,300,000), and Ruthenians (3,200,000); and the *Southern Slavonic Peoples*, the Slovenians (1,200,000), Croats and Serbs (3,000,000), and Bulgarians. These Slavonic peoples by no means constitute a homogeneous whole in respect of customs, civilization, or even of language, but must be conceived of as separate and distinct nationalities.—The second place is occupied by the *Germans* (10,200,000, or 29%), whose language is understood by the educated classes of all the other different nationalities, and is the most important commercial tongue in the empire.

The *Magyars* number 6,500,000, or 16% of the total, the *Romanians* 3,500,000, or 8%. The latter are subdivided into the Eastern Romanians or Roumanians numbering 2,600,000, and the Western Romanians (Friulians, Ladins, Italians) numbering about 700,000.

Among the secondary races are *Gipsies*, *Greeks*, *Armenians*, and *Albanians*.

The various nationalities are distributed as follows among the different provinces of the empire:—

Lower Austria is almost entirely German; *Upper Austria* and *Salzburg* are exclusively so. The Germans are in a majority in *Styria* and *Carinthia*, but the south parts of these provinces are inhabited by Slovenians, who form 33% of the population in Styria, and 30% in Carinthia. In *Carniola* all the inhabitants, except about 30,000, are Slovenians. Italians occupy the western part of Görz and Gradiska, and the coast-towns of Istria in the *Coastlands*, the interior of which is divided by Slovenians and Croats. In *Dalmatia* about 6% of the population is Italian, the remainder chiefly Croats and Serbs. *Tyrol* and *Vorarlberg* have a majority of German inhabitants, the Italians in the south forming 45% of the total population. In *Bohemia* 37% of the population is German, and 63% Czechian; in *Moravia* 30% is German, 70% Czech. In *Silesia* 49% is German, 28% is Polish, and 23% Czech. Poles form 52% of the people of *Galicia*, and Ruthenians 43%. In *Bukowina* 42% are Ruthenians, 33% Roumanians, and 19% Germans. In *Hungary* and *Transylvania* 46·5% of the people are Magyars, 17·6% Roumanians, 13·6% Germans, 13·5% Slovaks, 4·6% Croats and Serbs, and 2·6% Ruthenians. *Croatia* and *Slavonia* are inhabited almost exclusively by Croats and Serbs.

In point of *Religion* a much greater unity prevails than in language. Roman Catholics number 29,600,000, Greek Christians 2,900,000, Protestants (chiefly in Hungary) 3,600,000, Jews 1,600,000, Unitarians 56,000, and Armenians 6100.

Education seldom stands at an equally high level in all parts of great empires; and this is also true of Austria-Hungary. The highest educational level is attained in the west, and gradually sinks as we approach the east and south. The Germans are the most advanced, next stand the Czechs, then the Magyars, and finally the Poles. Austria contains 16,000 public primary schools, and Hungary 15,700.

Secondary education is provided for by high-schools; universities (8 in Austria, 3 in Hungary); technical high-schools (6 in Austria, 1 in Hungary); an agricultural high-school; 7 commercial schools; middle schools (gymnasia and "Realschulen"); and normal schools. The important future of special and technical schools is every day receiving more and more recognition in Austria, and efforts are being made to increase their number. Among these are agricultural, mining, trade, art, and industrial schools. The Museum of Art and Industry at Vienna should also be noticed in this connection. The most numerous and the most celebrated schools are found in Cisleithania.

Numerous learned societies and the newspaper press also labour unremittingly for the advancement of the people.

CONSTITUTION.

The different countries or provinces now embraced in the Austria-Hungarian monarchy gradually came to form, in the course of centuries, and in consequence of complex events, a sort of federative state, which was converted into an indivisible monarchy by the Pragmatic Sanction in 1713. Francis I. raised Austria to the dignity of an empire in 1804. After the revolution of 1848 the possessions of the monarchy were united in one equally administered whole. Austria and Hungary, the two halves of the monarchy, are regarded as distinct from and independent of each other (dualismus), though united under one monarch.

In **Austria** the legislative authority is shared by the emperor with an *Imperial Council* (*Reichsrath*), consisting of a house of lords and a house of representatives. Each of the separate constituent countries and provinces administers its own affairs by means of a *Provincial Diet* (*Landtag*), except in so far as they are expressly placed under the Imperial Council.

The *Executive Power* is exercised by a ministry of seven members, assisted by provincial committees and autonomous communities.

In **Hungary** the *Legislative Authority* is shared by the *King* and the *Diet* (*Reichstag*), consisting of a house of magnates (*Magnatentafel*) and a house of representatives (*Repräsentantentafel*). *Croatia* and *Slavonia* possess a separate diet (*Landtag*) for their own affairs.

The administration is in the hands of the Hungarian ministry of nine members, the local government of Croatia, and the magistrates of the "municipien" or counties.

Those interests which Austria and Hungary have in common (foreign affairs, certain military and financial affairs, mutual contributions, etc.) are controlled by two *Delegations*, each consisting of 60 members (40 in each case from the house of representatives, 20 from the upper house), elected for one year. The two parts of the empire are united in a customs and commercial federation.

The Austria-Hungarian army, on its war footing, consists of 1,400,000 men, 205,000 horses, and 2000 guns; the navy consists of 70 vessels (10 iron-clads) with 285 guns, manned by 9000 sailors.

SEA, RIVERS, AND LAKES.

The fact that Austria possesses part of the coast of the **Adriatic Sea** confers upon that nation a direct share in the great shipping-industry of the world.

The Adriatic Sea abounds with islands, and is easy to navigate, as it is seldom visited by storms. (Bora, Sirocco.)

The Austra-Hungarian coast-line on the Adriatic, about 1050 miles in extent, though rock-bound for most of its length, possesses numerous good harbours, among which the chief (on account of their inland connections) are Trieste and Fiume, though both are artificial havens. The only flat coast is found at the mouth of the Isonzo. From the south-east of Istria onwards the high coasts are fringed with islets.

Unfortunately no Austrian river of importance enters the Adriatic.

The **Rivers** of Austria-Hungary are advantageously arranged, for while some flow towards the centre of the country, others flow towards the neighbouring states. The main artery of traffic is the *Danube*, the second largest stream in Europe, which enters Austria below Passau, where it is already a river of considerable size, and flows across the entire monarchy, quitting it at Orsova, after a course of nearly 850 miles. The first part of its course within Austria is confined between narrow banks, and has a rapid descent (Passau 957 ft., Vienna 498 ft. above the sea-level); but in Hungary the Danube is slow and sluggish (Alt-Orsova 128 ft. above sea-level).

At numerous points throughout the whole course it is joined by large tributaries from both north and south. The chief are:—

1. *Right Bank:* The Iller, the Lech, and the Isar (with the Loisach) rise in Tyrol; the *Inn* (navigable from Hall), with Salzach, the Traun, Enns (left), Leitha, Raab; *Drave* (navigable from Villach), with the Mur (navigable from Judenburg, the chief river of Styria, the whole of which it traverses) and Gail; and the *Save* (navigable from its junction with the Laibach), with the Kulpa and Unna.

2. *Left Bank:* The Mühl, the March with the Thaya, the Waag, the Neutra, the Gran, the Eipel the *Theiss* (navigable from Szigeth), the largest tributary of the Danube, with the Szamos, Körös, Maros, and Bega on the left, and the Bodrog and Sajo (with the Hernad) on the right; the Temes, the Czerna, the Aluta, the Sereth, and the Pruth.

Owing to its numerous tributaries from the mountains the Danube maintains a tolerably uniform depth of water throughout the year, a fact of great advantage to shipping; but on the other hand these same tributaries often cause sand-banks and partial inundations by the quantities of earth they bring down with them. Inundations and alterations in the river's course are also frequently caused, especially in Hungary, by the formation of ice. The chief impediments to the navigation of the Danube within Austria-Hungary are the sand-banks at Gönyö and the rocks at the Iron Gates, which can be passed only when the water is high. Very extensive regulation-works will be necessary before these impediments can be removed.

The second river in importance is the *Elbe*, which rises among the Giant Mts. (Riesengebirge) in Bohemia, and flows through the country from east to west, receiving the Moldau at Melnik. It quits Austrian territory at Bodenbach (Herrnskretschen), to continue its course through Germany to the North Sea.

Bohemia presents the form of a huge basin or hollow, so that all its streams flow to join the Elbe. The chief are, from the south, the *Moldau* (navigable from Budweis) with the Luschnitz, Sazawa, Wotawa, and Beraun; from the west the *Eger;* and from the north the *Iser*.

The great importance of the Elbe, which may be ascended by steamboats as far as Leitmeritz, consists in the fact that it affords the cheapest means of communication between Austria and the North Sea and Atlantic Ocean.

The *Oder* rises in Moravia, and after receiving the Oppa, enters Prussia.

The *Vistula* rises on the Beskid hills in Silesia, receives the Dunajec and San, and enters Russian territory after forming the boundary for some distance between that country and Austria. It becomes navigable at Cracow, whence timber is floated to Berlin. The Bug rises in eastern Galicia.

The *Dniester* rises on the northern slopes of the Carpathians, receives the Stryi, Lomnitza, and Bistritza from the south, and the Sered from the north, and enters Russia. It is navigable after its junction with the Stryi. Both the Vistula and the Dniester could be very much improved for commercial purposes by regulation-works.

The *Rhine* merely touches the borders of Vorarlberg.

The *Adige* or *Etsch* rises on the Reschenscheideck, receives the Eisack and the Rienz, and becomes navigable at Botzen.

The *Brenta* flows from the lake of Caldonazzo to the east of Trent.

The *Isonzo* receives the Idria. The *Narenta*.

By far the larger half of the Austria-Hungarian rivers belong to the basins of the Black Sea and Adriatic (Danube, Dniester, Adige); the smaller half (Rhine, Elbe, Oder, and Vistula) to the basins of the North Sea and Baltic.

The Danube has the largest basin among these streams, amounting to 75% of the entire country, and including the greater part of all the crown lands of the Austria-Hungarian monarchy, with the exception of Galicia, Silesia, Bohemia, South Tyrol, Istria, and Dalmatia.

Full advantage is not, unfortunately, taken of these Austrian rivers, chiefly owing to the inefficient regulation of their channels.

In spite of the favourable conditions for their construction Austria contains but few *Canals.* The chief are the Bega Canal and Franzenscanal in South Hungary, together 146 miles in length, and the Vienna Neustädter Canal and the Schwarzenberg Canal in Austria. (Canals between the Danube and Oder, and the Oder and Elbe are projected, as well as a scheme to drain the Marchfeld.)

Lakes.—Austria abounds in both *Mountain* and *Lowland Lakes.* The latter are the most extensive, *e.g.* the Neusiedler-See and Plattensee in Hungary.

Most of the mountain lakes lie among the Alps: Lake of Constance (Rhine) in Vorarlberg; Achen-See in North Tyrol (Isar); Hallstädter-See, Wolfgang-See, Traun-See, Mond-See, Atter-See (Traun); Millstädter-See, Ossiacher-See, and Wörther-See in Carinthia (Drave); Veldes-See in Carniola (Save); Zirknitzer-See in the Karst (with periodic changes in its water-level). The north end of the Lago di Garda (basin of the Po) stretches into South Tyrol. There are numerous small lakes among the Carpathians, the chief of which are the Meeraugen on the Hohe Tatra.

Steamers ply on most of the Austrian lakes, of which the most important, from a commercial point of view, is the Lake of Constance.

Bohemia is remarkable for the number of its *Ponds,* especially in the neighbourhood of Wittingau.

MOUNTAIN SYSTEMS.

A glance at the map shows that the mountainous regions of Austria-Hungary are much more extensive than the level regions. The mountains predominate most in the west, the lowlands in the east of the monarchy, but neither are confined to either part.

About one-fifth of the total area is occupied by plains; the rest is mountainous. The clearest and simplest conception of the relations of the innumerable mountain groups, chains, and plateaux is obtained by observing the positions of the deep depressions, which separate the larger mountain systems from each other. One of the most important of these depressions is the *Valley of the Danube.*

To the south of this broad valley stretch the Alps and the Karst, to the north rise the Sudetic and Carpathian systems. These two last-named are in their turn divided from each other by another depression, the *Valley of the March and Beczwa* and the *Pass to the Oder* (only 950 ft. above sea-level).

The outward structure of the three mountain systems is very diverse. The *Alps* stretch in long chains from west to east in Austria-Hungary, and plateaux are rare. The *Sudetic Range*, on the other hand, is properly speaking only one extended plateau, and chains are rare. The *Carpathians* unite both formations; in the south-east plateaux predominate, in the north-west chains of hills are more numerous.

In point of elevation these three chief systems also differ considerably. The Alps rise to the height of 12,800 ft., the Carpathians have summits of 7000 ft., the Sudetic system of 5250 ft. The most imposing heights are thus found among the Alps, which also contain elevated valleys and glaciers, both of which are wanting in the other two systems.

The *Plains*, as already mentioned, are mostly in the east of the monarchy. The great Hungarian plain has an area of 37,850 square miles; the Croatian-Slavonic plain 2265 square miles; the lesser Hungarian plain 3000 square miles; and the

Marchfeld with the "Wienerbecken" 1460 square miles. The other principal plains are those on the Danube, the Galician plain, and the Bohemian plain on the Elbe.

The Alps.

The Alps cover an area of 78,000 square miles, of which 34,000 are in Austria-Hungary (including the Karst). Their length within this monarchy is 280 miles, their breadth from 118 to 236 miles (Salzburg to Udine; Vienna to Istria).

This system is reticulated to an unusual extent with parallel and lateral valleys; but three *Zones* are specially prominent, divided from each other by deep continuous depressions, viz., the *Central*, the *Northern*, and the *Southern Austrian Alps*. The two latter form the Limestone Alps or *Dolomites*.

No other mountain system in the world illustrates so many different formations within so small an area, and few exhibit so many varieties of outward character. The limestone Alps are rugged and shattered, and of a light colour, while the central Alps on the other hand are dark in hue, and present more the appearance of a continuous ridge with isolated summits. The principal valleys are generally wide, the lateral valleys narrow, with impetuous streams often interrupted by waterfalls.

The **Central Austrian Alps** comprise:—

1. The *Grisons Alps*.

2. The *Bernina Alps*, of which, however, only the outliers, on the upper Adige, are in Austria proper (Stilfserjoch, 9165 ft.).

3. The *Oetzthal Alps*, covering 2050 square miles, and containing 60 peaks about 10,660 ft. in height (Wildspitze 12,370 ft.). Glaciers cover 115 square miles of the surface.

4. The *Zillerthal-Ferner* and *Hohe Tauern*, a lofty watershed with no passes below 7200 ft. (Gross-Venediger 12,050; Gross-Glockner 12,455 ft.; Ankogel 10,670 ft.).

5. The *Niedere Tauern* is lower, and has no glaciers (Hochgolling 9390 ft.).

6. The *Styrian-Carinthian Alps* also contain no very lofty

summits. The chief pass, traversed by the "Rudolfsbahn," leads from the Mur to the Gurkthal over the Neumarkter Sattel.

The **Northern Limestone Alps** are also divided by deep valleys into several groups, of which the most important are:—

1. The *Rhine and Loisach Group.*
2. The *Loisach and Inn Group.*
3. The *Inn and Salzach Group,* the western summits of which are called the Kitzbüchler Alps,—the eastern the Salzburg Alps.
4. The *Salzach and Enns Group.* On the upper and middle Traun lies the picturesque and valuable Salzkammergut.
5. The group between the *Enns and Leitha.*

The **Southern Limestone Alps** comprise:—

1. The *Oglio and Adige Group.*
2. The *Adige and Piave Group.* To the south of the Val Sugana are the Lessenisean Dolomites, to the north the Cadorian or South Tyrolese Dolomites.
3. The *Carnian Alps,* including the Gailthal Alps between the Drave and the Gail.

Further to the east the Save divides the southern limestone Alps into two groups:—

4. The *Karawanken,* and the *Steiner* or *Sannthal Alps.*
5. The *Julian Alps* lie to the south of the Save and Gailitz.

The *Karst Region,* a limestone table-land of more recent formation, skirts the shores of the Adriatic and Ionian Seas from Idria and Soura to the southern extremity of the Greek peninsula. The name **Karst,** however, is confined to that portion of the district immediately surrounding the bay of Trieste. This fissured and sterile tract abounds in hollows ("Doliny") and caverns (Adelsberg, Lake of Zirknitz).

In Croatia rise the greater and lesser Kapella, the Vellebich Mountains on the borders of Dalmatia and Croatia, and to the south-east, on the Turkish frontier, the Dinara range (5940 ft.), which gives the name of *Dinaric Alps* to the entire mountain system of this region. The loftiest summit is the

Orjen (6230 ft.), on the Bocca di Cattaro. The mountains of Montenegro and Albania are still higher.

The Carpathians.

The Carpathians stretch in a wide curve, 750 miles long, between 44° 30′ and 50° N. lat. The central part of this range is the narrowest. The Carpathians resemble the Alps in being divisible into three principal groups (a north-western, a central, and a south-eastern), and also into zones differing in geological character. The external zone of the Carpathians is sandstone, corresponding to the limestone external zone of the Alps.

The Hohe Tatra (8684 ft.), the loftiest summit, owes much of its imposing appearance to the fact that it stands isolated from the general chain.

The principal valleys among the Carpathians are not so large as among the Alps; lateral valleys are numerous.

The snow-line in the northern Carpathians is at the height of 8330 ft. above the sea-level; snow does not lie permanently among the southern Carpathians, and there are also no glaciers in that region. The scanty rainfall (26·7 inches) contributes largely to this latter fact. Vegetation, however, does not extend to such high elevations among the Carpathians as among the Alps; in the latter mountain-hamlets are found at 6200 ft. (Fend, Gurgel), in the former not above 2950 ft. Trees cease on the Carpathians at the height of 5180 ft. above the sea-level.

The Carpathian passes are much deeper than those of the Alps (only 2000–3100 above sea-level), so that traffic is easier in the former.

The **North-Western Carpathians** embrace:—1. The *Lesser Carpathians.* 2. The *White Mountains.* 3. The *Beskides* (or Beskid Hills). 4. The *Tatra* (80 miles long and 60 miles broad). 5. The *Zipser Bergland* (4100 ft.), to the east of the Hohe Tatra. 6. The *Liptau Mountains* (Kleine Tatra), to the south of the Hohe Tatra. 7. The *Waag-Neutra Group.* 8. The *Kremnitzer Mountains.* 9. The *Gran Hernad Group.* These two last groups abound in volcanic formations, and are rich in minerals. 10. The *Neograd Mountains* and the Matra. 11. The *Hegyallya.*

The **Central Carpathians**, or "Wald Karpathen," extend to the sources of the Viso and the Goldene Bistritza, increasing both in height and breadth from north-west to south-east. The highest summit is Rusky (6730 ft.), between the Black and the White Theiss.

The **South-Eastern Carpathians**, or Transylvanian Highlands, are occupied in the interior chiefly by narrow river-valleys separated from each other by chains of hills, and only occasionally expanding into small plains (*e.g.* at Kronstadt and Fogaras).

Among the bounding mountains are the *Siebenbürgisches Erzgebirge* (*Transylvanian Ore Mountains*), on the north and west frontier, rising to 6500 ft. The principal valleys, which run from east to west, afford the chief means of communication with Hungary (Marosthal, with the first Transylvanian railway; Körösthal, with the Hungarian East Railway). On the south and east frontier rise the *Transylvanian Alps*, a thickly-wooded and uninhabited range, rising to the height of 8200 ft. The chief passes in this difficult range are the pass from Orsova to Temesvar, the Vulcan Pass (3095 ft.; Chyl), the Rothethurm Pass (1155 ft.; Aluta), Tömös Pass (3370 ft.), and the Oitosz Pass (2795 ft.).

The low *Podolian Ridge* (1000–1300 ft.), part of the Ural-Carpathian ridge between the Dniester and the Vistula, adjoins the Carpathians on the north-east.

The Sudetic System.

The Sudetic system, occupying 35,000 square miles in the north-east of Bohemia, forms a terraced group, with bounding mountains on all sides except the south and south-east. The greatest elevation (the Schneekoppe, 5250 ft.) is in the north-east. It comprises the following groups:—

1. The *Fichtelgebirge*, of which, however, only the eastern outliers belong to Austria.

2. The *Bohemian Forest*, stretching towards the south-east, is divided by the Neumarkter Sattel into the Lower Bohemian Forest in the north-west, and the Higher Bohemian Forest in the south-east. The chief summits are the Arber (4780 ft.), the Rachel (4770 ft.), and the Plöckenstein (4540 ft.). The Bohemian Forest is adjoined on the east by the granite plateau of Upper Austria and the Waldviertel, which terminates abruptly with the Manhartsberg.

3. The low *Bohemian-Moravian Hills* (2600 ft.), in the south-east, separate the basin of the March from that of the Moldau. Passes cross from Iglau to Deutschbrod (North-west Railway) and from Zwittau to Böhmisch-Trübau (State Railway).

4. The *Sudetic System*, in the narrower sense of the term, lying between the Oder and the Elbe, comprises the following groups:—

a. Moravian-Silesian System, to the south-east of the March (Altvater 4880 ft.).

b. Glatz Mountains (*Glatzer Gebirgskessel*).

c. Riesengebirge or *Giant Mountains*, with the Schneekoppe (5250 ft.), and the *Isergebirge*, with the Tafelfichte (3690 ft.).

d. Mountains of Lusatia, with the Jeschken (3320 ft.).

e. Sandstone Hills of the Elbe or the *Bohemian-Saxon Switzerland* (Prebischthor, 1400 ft.).

5. The *Erzgebirge* or *Ore Mountains*, in the north-west, stretch from the Weisse Elster to the pass from Kulm to Nollendorf. It receives the name of Elstergebirge in the west, and presents an abrupt face to the south, but slopes gradually towards Saxony. The highest summit is the Keilberg (4180 ft.), to the east of which is the railway from Weipert to Annaberg.

6. The basaltic *Böhmisches Mittelgebirge*, or *Bohemian Central Range*, runs parallel with the Erzgebirge, on both sides of the Elbe, near Aussig (Milleschauer, 2740 ft.).

CLIMATE.

Austria-Hungary lies exactly midway between the Equator and the North Pole, but as its situation is "continental" and its surface very mountainous, it has very hot summers, followed by severe winters. An oceanic climate is enjoyed only by the Adriatic coast and the islands, where olive-trees and laurels flourish in the open air. The island of Lesina has a climate like that of Naples or of Lisbon (46° F. in Jan., 79° F. in July); whereas Hermannstadt and Lemberg have a temperature in Jan. of 24·8° F. and in July of 66° F. Vienna has 30·5° F. and 68°; Pest has 31° F. and 69° F.

Austria-Hungary lies in the zone of the irregular *Winds*. To the south of the Alps the south winds, frequently alternating with the Bora (north-east wind), prevail. In the valley of the Danube, the skirts of the Alps, and Bohemia west winds are predominant.

The *Rainfall*, corresponding to the physical features, varies very much in different parts of the monarchy. Most rain falls in the Alps (Raibl in Carinthia 80 inches, Salzburg 41·7, Fiume 63, Trieste 42·5), the Bohemian Forest (Rehberg 55 inches), and the Carpathians (Kremnitz 37 inches). The lower districts, especially in the interior of Bohemia and Hungary, have much less rain (Vienna 22·6, Ofen 17·8, Prague 15·7). The Coastlands, South Tyrol, and South Hungary have very dry summers, followed by rainy winters; a fact which explains the peculiar characteristics of the "pushtas" or prairies of Hungary. In the remaining parts of the empire the rainfall is tolerably uniform throughout the year.

The climate is everywhere healthy except in the marshy regions, where, especially in Hungary, fevers are bred by the hot summers.

PROVINCES AND CHIEF TOWNS.

I. Austria.

1. *Grand-Duchy of Lower Austria* (Oesterreich unter der Enns). —To the south of the Danube: *Vienna* (1,364,000 inhab., with the suburbs), Liesing, Schwechat, Bruck-an-der-Leitha, Hainburg, Pottendorf, Ebenfurt, Baden, Vöslau, *Wiener-Neustadt* (24,000 inhab.), Ternitz, Gloggnitz, St. Pölten, Mölk, Scheibbs, Gamming, *Waidhofen-an-der-Ybbs*, Amstetten, Ybbs, St. Valentin. To the north of the Danube: Stadelau, Marchegg, Gänserndorf,

Floridsdorf, Korneuburg, Stockerau, Absdorf, Krems, Stein, Meissau, Rötz, Gross-Sieghards, Horn, Waidhofen-an-der-Thaya, Gmünd.

2. *Grand-Duchy of Upper Austria* (Oesterreich ob der Enns).—To the south of the Danube: *Linz* (42,000 inhab.), *Klein-münchen*, Enns, *Steyr*, Hall, Wels, Hallstadt, *Ischl*, Ebensee, Gmunden, Lambach, Wolfsegg, Neumarkt, Ried, Braunau, Schärding, Engelhartszell. To the north of the Danube: Haslach, Freistadt, Mauthausen, Grein.

3. *Duchy of Salzburg.*—*Salzburg* (24,000 inhab.), Hallein, Gastein, Zell-am-See, Radstadt.

4. *Duchy of Styria* (Steiermark).—*Graz* (98,000 inhab.). To the north of Graz: Köflach, Judenburg, Zeltweg, Leoben, Bruck-an-der-Mur, Krieglach, Mürzzuschlag, Neuberg, Maria-Zell, Hieflau, *Eisenerz*, *Vordernberg*, Admont, Rottenmann, Aussee, Lietzen. To the south of Graz: Marburg, Pragerhof, Pettau, Cilli, Rohitsch, Tüffer, Steinbrück.

5. *Duchy of Carinthia* (Kärnthen). — *Klagenfurt* (19,000 inhab.), Villach, *Bleiberg*, Tarvis, St. Veit, *Hüttenberg*, St. Leonhard.

6. *Duchy of Carniola* (Krain).—*Laibach* (26,000 inhab.), Laak, Neumarktl, Ober-Idria, Adelsberg, St. Peter, Gottschee.

7. *County of Tyrol* and *Vorarlberg.*—*Innsbruck* (21,000 inhab., with suburbs 30,000 inhab.), Hall, Kufstein, Imst, Landeck. To the south of the Brenner: Franzensfeste, Lienz, Brixen, Bozen, Meran, Trient (20,000 inhab.), *Roveredo*, Ala, Riva, *Bregenz*, Dornbirn, Hohenems, Feldkirch, Bludenz.

8. The *Coastlands* (Küstenland, including the county of Görz and Gradiska, the Margraviate of Istria and the town of Trieste).—*Trieste* (76,000 inhab., with the suburbs 133,000 inhab.), Nabresina, Gradiska, Görz (21,000 inhab.), Cormons, Haidenschaft, Capo d'Istria, Pirano, Rovigno, Pola (25,000 inhab.). The islands of Veglia, Cherso, and Lussin.

9. *Kingdom of Dalmatia* (Dalmatien).—*Zara* (12,000 inhab.), Sebenico, Knin, Spalato, Ragusa, Cattaro, Budua. The islands of Pago, Brazza, Lesina, Lissa, Curzola, and Lagosta.

10. *Kingdom of Bohemia* (Böhmen).—Bohemia is divided into

four parts by the Elbe, Moldau, and Beraun. *Prague* (182,000 inhab., or including Wyssehrad, Karolinenthal and Smichov 310,000 inhab.), situated on both banks of the Moldau, nearly in the centre of the country.

(1) Between the Elbe and the Moldau: Kolin, Pardubitz, Königgrätz, Czaslau, Böhmisch-Trübau, Chrudim, Deutschbrod, Tabor, Wittingau, Budweis (24,000 inhab.).

(2) Between the Moldau and Beraun: Krumau, Winterberg, Strakonitz, Pisek, Schüttenhofen, Klattau, Przibram, Horzowitz, Radnitz, *Pilsen* (39,000 inhab.), Mies.

(3) Between the Beraun and Elbe: Marienbad, Eger, Franzensbad, Asch, Falkenau, Elbogen, Schlaggenwald, Karlsbad, Joachimsthal, Saaz, Komotau, Dux, Teplitz, Aussig, Bodenbach, Schlan, Rakonitz, Kladno, Kralup.

(4) In the curve of the Elbe: Melnik, Leitmeritz, Tetschen, *Rumburg*, Schluckenau, *Warnsdorf*, Haida, Böhmisch-Leipa, Jungbunzlau, Turnau, *Reichenberg* (28,000 inhab.), Hohenelbe, Trautenau.

11. *Margraviate of Moravia* (Mähren).—*Brünn* (83,000 inhab.), Rossitz, Oslawan, Adamsthal, Blansko, Zwittau, Iglau (22,000 inhab.), Gross-Meseritsch, Trebitsch, Znaim, Grussbach, Nikolsburg, Lundenburg, Prerau, Neutitschein, Witkowitz, Mährisch-Ostrau, Schönberg, Weisskirchen, Zöptau, Sternberg, *Olmütz* (20,000 inhab., or including suburbs 23,000 inhab.), *Prossnitz.*

12. *Duchy of Silesia* (Schlesien).—*Troppau* (21,000 inhab.), Jägerndorf, Freudenthal, Freiwaldau, Gräfenberg. Oderberg, Polnisch-Ostrau, Teschen, *Bielitz*, Friedeck.

13. *Kingdom of Galicia* (Galizien) *and Lodomeria* (with the duchies of Zator and Auschwitz and the Grand-duchy of Cracow). —*Lemberg* (128,000 inhab.). To the west of Lemberg: Przemysl, Jaroslaw, Sambor, Tarnow (25,000 inhab.), Bochnia, *Wieliczka*, *Cracow* (66,000 inhab.), Szczakowa, Oswiecim, *Biala.* To the east of Lemberg: Brody (20,000 inhab.), Tarnopol (26,000 inhab.), Kolomea.

14. *Duchy of Bukowina.*—*Czernowitz* (46,000 inhab.), Sadagura, Radauz, Suczawa, Jakobeny.

II. Hungary.

Hungary with Transylvania is at present divided into 88 "municipien."

1. *Kingdom of Hungary.—Budapest* (492,000 inhab.).

(1) To the left of the Danube: *Pressburg* (48,000 inhab.), Schemnitz, *Kremnitz*, Neusohl, Komorn, Losoncz, Waitzen, Hatvan. To the south of Pest: Czegled, Szolnok, Kecskemét, *Szegedin* (74,000 inhab.), Maria-Theresiopel (61,000 inhab.), Zombor, Neusatz.

(2) To the right of the Danube: Odenburg (23,000 inhab.), Ruszt, Wieselburg, Raab, Gran, Veszprim, Papa, Stuhlweissenburg, Steinamanger, Gross-Kanizsa, Zakany, *Fünfkirchen* (29,000 inhab.), Mohacs.

(3) To the right of the Theiss: Leutschau, Göllnitz, *Schmölnitz-in-der-Zips*, Eperies, Kaschau (22,000 inhab.), Miskolcz, Erlau, Tokay, Munkács.

(4) To the left of the Theiss: Szigeth, Szathmár, *Debreczin* (51,000 inhab.), Gross-Wardein (31,000 inhab.), Bekes, Gyula, Csaba (33,000 inhab.), Vásarhely, Mako, Arad (36,000 inhab.), *Temesvar* (34,000 inhab.), Lugos, Gross-Kikinda, Gross-Becskerek, Pancsova, Weisskirchen, Bazias, Orawitza, Alt-Orsova, Mehadia.

(5) *Transylvania* (Siebenbürgen): Petrozseny, Karlsburg, Zalathna, Tövis, Klausenburg (30,000 inhab.), Szamos-Ujvar, Bistritz, Sächsisch-Regen, Maros-Vasárhely, Mühlenbach, Hermannstadt, Mediasch, Schässburg, Fogaras, Kronstadt (30,000 inhab.).

(6) *Fiume* with its domain (21,000 inhab.).

2. *Kingdoms of Croatia and Slavonia.*—Agram (28,000 inhab.), Warasdin, Kreuz, Belovár, Karlstadt, Buccari, Porto-Ré, Zengg, Carlopago, Sissek, Kostainitza, Brod, Esseg, Vinkovce, Vukovár, Illok, Peterwardein, Karlovitz, Semlin.

NATURAL PRODUCTIONS.

1. **Agricultural Produce.**—Austria-Hungary is one of the most favourably endowed countries in Europe. About 89% of its entire area is productive; a percentage, however, which is

considerably exceeded in Austria proper. The only unproductive regions are the summits and crests of the loftier mountains, the upper parts of the Karst and the Dalmatian hills, and the swamps and moors of Hungary.

Agriculture is the chief resource of the inhabitants, or in other words, Austria-Hungary is mainly an agricultural state. Two-thirds of the population are supported by this industry, which, including stock-farming, annually yields produce to the value of £200,000,000.

The principal corn-producing districts are Hungary, Croatia and Slavonia, Bohemia, Moravia, and Galicia, *i.e.* those districts in which the greatest plains are found. The leading cereals are *Wheat* (17,180,000 qrs.) in the banat of Hungary and Bohemia; *Rye* (16,156,000 qrs.) in Bohemia, Moravia, Galicia, Lower Austria, and Hungary; *Oats* (17,875,000 qrs.) and *Barley* (11,356,000 qrs.) in the same districts; *Maize* (12,375,000 qrs.) in the Hungarian monarchy, Lower Styria, and Bukowina. Millet is grown in the Karst, buckwheat in the upper parts of the mountains (together 1,718,000 qrs.), and rice (3425 qrs.) in Gradiska. Austria-Hungary is able to maintain an almost regular export of grain, chiefly to Western Europe. The chief items in this trade are Hungarian wheat and wheaten flour, the excellence of which successfully defies competition in all markets.

Potatoes (245 to 275 million bushels) are grown most extensively in the north of the monarchy, in Lower Austria, and northern Hungary, but hardly in sufficient quantity to cover the home demand. *Leguminous Vegetables* are cultivated largely in Bohemia, Moravia, and Galicia. Cabbage, and roots for feeding purposes are grown in most of the provinces. *Beetroot*, for sugar, is cultivated chiefly in Bohemia, Moravia, and Hungary, which produce more sugar than is consumed in the entire monarchy.

Market-gardening flourishes chiefly in the neighbourhood of the larger towns. The best vegetables are grown near Znaim, in Moravia. *Fruit*, the cultivation of which has in recent times been much extended and improved, is of even greater importance. The best is produced in the neighbourhood of Botzen and Görz, in the valley of the Elbe below Leitmeritz, and near Ödenburg and the Platten-See in Hungary. Plums (for slivovitz)[1] are grown in Syrmia, and apples and pears in the Alps.

Southern Fruits and chestnuts are found at various spots in the south. The cultivation of *Olives* (274,000 cwts. of oil) is an important resource in Dalmatia, Istria, and on the Lago di Garda; and that of *Mulberries* in the South Tyrol, Görz, Istria, Dalmatia, and many parts of Southern Hungary.

Wine is produced in all the provinces of the empire except Salzburg, Silesia, and Galicia. Of the 2470 square miles occupied by vineyards, about two-thirds are in the lands of the Hungarian crown; and Hungary, with the adjacent lands, yields about 60% of the total vintage, which averages between 175,000,000 and 195,000,000 gallons. The best Hungarian wines come from Tokay, Erlau, Rust, Neszmély, Ofen, Szekszárd, Villány, Ménes, and Karlowitz. The best Austrian wines are made in Lower Austria, at Vöslau, Gumpoldskirchen, Klosterneuburg, and Rötz. From this province vine-growing extends into southern Moravia. Luttenberg and Marburg are the chief wine-growing centres in Lower Styria. South Tyrol and Dalmatia produce chiefly light red wines.

Other important crops are *Flax*, in the north-west (Bohemia, Moravia, Silesia), *Hemp*, in the lower parts of Hungary (together 2,400,000 cwts.; insufficient for the home demand), *Tobacco*, forming a government monopoly (in Galicia, Bukowina, and South Tyrol, 74,000 cwts.; in Hungary 1,230,000 cwts.); *Hops* (240,000 cwts.), in Bohemia (Saaz, Auscha), Upper Austria, Styria, Carniola, and in Hungary; *Rape*, in Hungary and the northern provinces (Bohemia, Silesia, and Galicia).

Forests.—Austria-Hungary is one of the most richly-wooded countries in Europe, nearly one-third of the total area being covered by forests. The most extensive forests are found among the Alps and Carpathians, on the borders of Bohemia, and in Slavonia (oaks). Many of the primeval forests, especially on the Carpathians, are practically of no value at present, whereas, on the other hand, a want of timber is felt in the Hungarian plains, Dalmatia, and Istria. This state of affairs, however, is to be altered by improving the means of communication.

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[1] **Slivovitz, Slibovicz, or Schlickowitz, is a pale yellow liqueur made from the fruit of the "Zwetsche," or Turkish plum.—Tr.**

Speaking generally, the rich soil of Austria-Hungary is not yet fully taken advantage of. Farming in the west stands at a high level, and in the east the land is also cultivated with intelligence, but machinery is found only on the larger estates; the peasants still cling to primitive methods of husbandry.

The whole country, but especially Hungary, is very much behind other states in the matter of forestry, and in the intelligent use of its treasures of timber. There is also room for considerable improvement in the methods adopted by the wine-growers, especially in the processes of manufacturing and storing the wine. Austria-Hungary is already in the first rank of wine-producing countries so far as quantity is concerned; it might also, from the nature of its climate, occupy a similar position for quality, and in this manner, like France, develop a splendid source of wealth in its vineyards.

It must not, however, be overlooked that both in Austria and Hungary very much has been done within recent decades for the improvement of husbandry, by the founding of agricultural schools and societies (upwards of 300), by the appointment of travelling teachers, and by exhibitions, model-farms, and companies lending money on heritable security, etc.

2. **Live Stock.**—The luxuriant mountain meadows ("Almen") of the Alps, the "Pushtas" of Hungary, and the other extensive pastures of Austria-Hungary, enable that country to raise more than enough live stock to meet the domestic demand, though there is still something to be desired in point of quality.

Horses, of a small and light strain, are bred chiefly in the east of the empire, in Hungary, Transylvania, and Galicia; heavier animals, of the so-called Noric breed,[1] are reared in the

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[1] From the *Noricum* of the Romans, which included what is now Salzburg, Styria, Carinthia, and Austria south of the Danube.—Tr.

Alpine lands (*e.g.* Pinzgau in Salzburg). Government maintains stud-farms at Radautz, Piber, Lipizza, Mezöhegyes, Kisber, and Babolna. The total number of horses in the empire is 3,500,000, of which 2,000,000 are in Hungary.

Asses and *Mules*, in Austria 50,000; in Hungary 34,000.

Horned Cattle, the breeding of which is on the whole further advanced than the horse-breeding, are most numerous in Hungary, Galicia, and the Alpine lands. The two former countries, in which the production of butcher-meat is the chief object, rear the long-horned Podolian breed; the Alpine lands, relying more upon dairy-farming, prefer the Montafon, Pusterthal, Lavant, and Mürzthal breeds. The total number of cattle is estimated at 14,000,000 head, of which 8,500,000 are ascribed to Austria and 5,500,000 to Hungary. Compared with former years (1857) this number shows a falling off. Large quantities of butter, cheese, and whey are produced in Bohemia, Galicia, Tyrol, and Vorarlberg. The cheese-production does not, however, cover the home demand; and finer varieties, suitable for export, are conspicuous by their absence.

Sheep Farming is steadily rising in importance, owing to the constant efforts made to improve the breeds by crossing with merinos and other good strains. The best Austrian wool comes from Lower Austria, Bohemia, Moravia, Silesia, and Hungary; but it has somewhat declined in value owing to the superior quality of American and other imported wools. In recent years considerable numbers of fat sheep have been exported from Austria. The annual yield of 600,000 cwts. of raw wool is not sufficient to meet the home demand. Austria contains 14,000,000 sheep, of which three-fourths are in Tranleithania, and one-fourth in Cisleithania.

Goats number 1,500,000, Dalmatia containing the largest proportion.

Pigs are fed chiefly in Hungary (Bakonyerwald), Transylvania, and Slavonia. In the last-named province they are fattened upon acorns.

Of the total number of 7,000,000 swine, 4,500,000 are in Hungary, 2,500,000 in Austria.

Poultry are found everywhere, but especially in Bohemia, Moravia, Silesia, and Hungary (geese).

Bee-keeping flourishes in Carinthia, Silesia, and Galicia.

Silk-worms are reared, broadly speaking, only in the southern "crown-lands," where we have seen that the mulberry-tree flourishes; but the industry attains importance only in South Tyrol. The annual yield of 268,000 lbs. of raw silk is not nearly equal to the home demand.

Hunting is most successful in Bohemia, Galicia, Hungary, and Transylvania. *Fishing* is carried on in the rivers and lakes (Theiss, Platten-See), and also in the ponds of Bohemia, Moravia, and Lower Austria, and in the Adriatic Sea. But neither the artificial fish-breeding in fresh-water nor the sea-fisheries has the importance which they have long enjoyed in other countries, such as France, England, or Italy.

3. **Mining.**—Austria-Hungary is one of the richest countries of Europe in minerals. That the actual production does not correspond to this wealth is due simply to the fact that coal and metallic ores are seldom found together, or even near each other. The costliness of communication also hampers the development of the mining and smelting industries.

The two chief minerals upon which all modern manufactures rest, viz. *Coal* and *Iron*, are found in Austria in great abundance and of good quality, but unfortunately disadvantageously distributed.

Austria-Hungary produces annually about 18,000,000 tons of coal, of which about 60% is lignite, or "brown coal." The chief coal-fields are on the Sudetic range, compared with which the Carpathians, and still more the Alps, are poorly provided with this mineral.

Coal, generally difficult to work, is found in Bohemia (at Buschtehrad and near Pilsen), 3,000,000 tons; Moravia (Rossitz, Oslawan, and Mährisch-Ostrau), 500,000 tons; Silesia (Polnisch-Ostrau, Karwin, etc.), 1,200,000 tons; Galicia (on the Silesian border and near Kolomea), and Lower Austria; also in Hungary (at Funfkirchen, Orawitza, and Reschitza), 600,000 tons. The total output is about 7,000,000 tons.

Lignite, generally easily worked, is found in Bohemia and nearly all the other "crown-lands." The largest coal-field in the entire monarchy lies in the basin on the south slope of the Erzgebirge, near Aussig, Dux, Osseg, and Komotau, and produces annually about 5,000,000 tons. Smaller deposits are found in Styria (Köflach, Judenburg), Upper Austria (Wolfsegg), Carniola, Moravia; Hungary (Salgo Tarjan) and Transylvania (Petrozsény). The total output is about 11,000,000 tons.

Lignite is exported, chiefly by the Elbe, but other kinds of coal require to be imported.

Iron is found in each of the three mountain-systems of the empire, but the chief deposit is that of the Alps, which has been worked ever since the days of the Romans. Styria (Vordernberg and Innerberg, Turrach, Neuberg, Mariazell) produces one-fourth of the total output. Next in importance come Carinthia (Hüttenberg), Carniola, Bohemia (to the west of Prague and near Pilsen), Moravia, Silesia (with a number of small deposits), Western Galicia, and Bukowina. In Transleithania iron is produced in Upper Hungary, the Erzgebirge in the "banat" (Orawitza), and, within late years, in Transylvania also. Austria-Hungary stands sixth among the nations of Europe in respect of the quantity of iron it produces (500,000 to 600,000 tons), of which two-thirds are raised in Austria.

Among the other metals mined are the following:—

Gold. Austria-Hungary produces more gold (about 3960 lbs.) than any other European country except Russia. That metal is found chiefly in Transylvania (in the neighbourhood of Zalathna), Hungary (Kremnitz, Schemnitz, Schmöllnitz, Nagybánya). Austria proper yields only about 35 lbs.

Silver (105,000 lbs.). Three-fifths of the total amount is produced in Bohemia (Przibram, Joachimsthal), and other parts of Austria proper, and two-fifths in Hungary and Transylvania, where it is found in the same localities as the gold.

Quicksilver (8000 cwts.) is almost entirely restricted to Idria.

Copper (2400 tons). About 60% of the total is mined in

Hungary (Göllnitz, Schmöllnitz, Neudorf), the remainder in Austria, Salzburg, Bukowina, and Tyrol.

Lead and *Litharge* is worked principally in Carinthia (Bleiberg) and also in Bohemia. In Hungary, Neusohl, and Nagybánya are the chief centres. The total yield is 8000 tons, of which 6500 tons are credited to Austria.

Tin is found only in the Erzgebirge; at Zinnwald and Graupen.

Zinc and *Galena* are produced in small quantities in Western Galicia, and also in Carniola and Carinthia. The chief deposit in Hungary is in the "comitat" of Varasdin.

Graphite (upwards of 10,000 tons) is mined mainly in Southern Bohemia, in Moravia (Müglitz), and Styria.

Salt is exceedingly abundant in Austria-Hungary. The largest deposits are found among the Carpathians. The wealth of the famous salt-mines of Wieliczka and Bochnia in Galicia, of the Marmaros in Hungary, and of Maros-Ujvar in Transylvania, seems practically inexhaustible. Salt is obtained by evaporation also, on the north side of the Carpathians, in the Salzkammergut, Aussee, Hallstadt, Ischl (Ebensee), and at Hallein (Salzburg), and Hall (Tyrol). Sea-salt is made at Capo d'Istria and Pirano. The empire has a total annual produce of about 300,000 tons. The working and sale of the salt are government monopolies. Chemical salts are made in Galicia at Kalusz.

The following minerals are also found, but in smaller quantities than those just mentioned:—

Manganese in Carniola; antimony, nickel, and cobalt in Bohemia and Hungary; uranium in Joachimsthal.

Sulphur chiefly in Galicia (Swoszowice); saltpetre and soda in Hungary. *Alum* and *Vitriol* in Bohemia. *Mineral Oils* (naphtha, petroleum) in Galicia (176,000,000 gals.). *Asphalt* mainly in Dalmatia.

Opals are found in Upper Hungary; garnets, agates, amethysts, crystals, etc., in Bohemia, and also in Hungary.

Fine Clay in Bohemia and Lower Austria. *Porcelain Clay* chiefly in Bohemia, near Karlsbad.

Marble is quarried in Salzburg (red), and at Laas in the Val Venusta or Vintschgau (white); *Slates* in Moravia; *Millstones* on the Gran.

Dye-earths in Bohemia and Lower Austria (Krems white).

Turf or *Peat*, a fuel of growing importance, is cut in Tyrol, Bohemia, and Salzburg.

No country in Europe has so many or such excellent *Mineral Springs* as Austria-Hungary. Among the most famous are those at Karlsbad, Giesshübel, Marienbad, Püllna, Franzensbad, and Teplitz (all in Bohemia), Gastein (in Salzburg), Hall and Ischl (in Upper Austria), Rohitsch (in Styria), Baden (near Vienna), Ofen, Schmecks (Tatrafüred), Füred (on the Platten-See), Lipik (in Slavonia), and Mehadia (in Hungary).

The mining and smelting industries of the entire empire employ 150,000 workmen, of whom about 100,000 are in Cisleithania. The annual value of the minerals raised is nearly £8,500,000. Speaking generally these industries are on a far from satisfactory footing. Some few of the Austrian mines (*e.g.* the mines at Przibram, the large salt-mines in the Carpathians, the coal-mines of Silesia) are worthy to be ranked alongside of the best-managed works of the kind in the world; but hundreds of other mines and mineral springs are lying useless. Hitherto, as already noted, the absence of cheap means of communication has been a chief hindrance in this department; but in recent times an improvement has been perceptible in the mining industries. The Royal and Imperial Geological Institute, and the schools of mining at Leoben, Przibram, and Schemnitz exercise a very beneficial influence.

MANUFACTURES.

The unusual abundance of all the natural productions of Central Europe, and the abundance and advantageous distribution of water-power in Austria-Hungary, show of themselves that that country is endowed with all the conditions for a prosperous and varied industry.

The industries of the different provinces of the empire are, however, at very different stages of development. First of all it is to be observed that Transleithania, in comparison with Cisleithania, must be regarded as an agricultural district, with few manufactures. Budapest is, properly speaking, the only considerable industrial centre, or at least the only place with extensive manufacturing establishments, in Hungary; but even in Austria the industrial development of its different parts is very various. Bohemia, Moravia, Silesia, Lower Austria, Styria, and Vorarlberg, supported by abundant coal-measures, constant water-power, and a sufficient and cheap supply of trained labour, have brought their manufacturing and wholesale industries to a pitch of excellence which enables Austria to compete with most of the foreign states, and even in some branches to excel them. Other "crown-lands," such as Carinthia, Carniola, Tyrol, and Istria, have just reached the level of an ordinary manufacturing industry; while others, like Dalmatia and Bukowina, stand still lower, so that not even the retail trades and handicrafts seem adequately represented in them. In all these ill-developed lands the chief foes to attempted progress are want of coal, scanty population, antiquated manners and customs, defective communication, and in some cases deficient education. They provide, however, a market for the manufactures of the more advanced provinces, giving in exchange chiefly raw materials.

But the general improvement and advance of the Austrian manufacturing industry must not be under-estimated. Its development is steadily assisted by improved teaching-institutions, exhibitions, chambers of commerce and manufactures, and societies of various kinds. Under these circumstances it may be understood how manufactures have made proportionately a much greater advance than either agriculture or mining.

Textile Industries.—1. *Cotton.*—The cotton-industry has steadily advanced since its introduction into Austria at the beginning of the present century. Its chief seats are in *Lower Austria*, *Bohemia*, and *Vorarlberg.*

Cotton-spinning employs about 2,200,000 fine spindles. The spinning-factories are situated in the Steinfeld in Lower Austria, at Pottendorf, Möllersdorf, Trumau, etc. (30 factories with 400,000 spindles). At Reichenberg and Böhmisch-Leipa and other points in the north and north-east of Bohemia there are 60 factories with 800,000 spindles. Vorarlberg contains 200,000 spindles, mostly at Feldkirch, Dornbirn, and Bludenz. Tyrol and Upper Austria (Kleinmünchen) also have spinning-factories. All the finer qualities of yarn (above No. 60) must be imported, as the native factories spin only the coarser numbers. Bohemia produces also *Cotton-twist.*

Cotton-weaving employs 30,000 power-looms and 60,000 hand-looms in Austria alone; about 300,000 persons are engaged in this industry in the entire monarchy. The chief cotton-weaving places are:—

In Bohemia: the neighbourhood of Reichenberg, Kosmanos, Hirschberg, Friedland, Bodenbach, Böhmisch-Kamnitz, Asch, Böhmisch-Brod, Rumburg, Königinhof, Braunau, etc. In Moravia: Sternberg, Zwittau, Mährisch-Trübau, Prossnitz, Rothwasser, Bärn, etc. In Vorarlberg: the same places as spin cotton. In Lower Austria: Vienna and its neighbourhood.

Cotton-velvet is manufactured at Warnsdorf in Bohemia.

Cotton-printing is closely connected with weaving, and is highly developed in Bohemia (Prague, Kosmanos, Böhmisch-Leipa), Lower Austria, and Vorarlberg.

2. *Linen.*—Linen-weaving, a very ancient industry in Austria, occupies 4,000,000 persons (in nearly all the crown-lands), most of whom practise it as a domestic handicraft in their own homes. A higher stage is reached in Bohemia, Moravia, and Silesia, where flax-spinning and linen-weaving are developed into wholesale industries.

Flax-spinning in factories is steadily spreading in the north of the provinces on the Sudetic chain; at present it employs 330,000 spindles, of which 230,000 are in Bohemia. Spinning and weaving are, from the nature of the case, carried on mostly in the same places.

In Bohemia the chief centre is *Rumburg.* Next in importance is *Trautenau,* after which range Reichenberg, Schönlinde, Hohenelbe, Landskron, etc. In Moravia: *Schönberg,* Janowitz, and Sternberg. In Silesia: Freiwaldau and Würbenthal.

Linen-twist is prepared chiefly in Schönlinde, Freiwaldau, and Lower Austria.

The principal *Bleaching-works* are in Bohemia, Moravia, *Silesia*, and Upper Austria.

Hempen Goods, sailcloth, and ropes, are manufactured mainly on the Adriatic Sea, at Fiume and Trieste; but also in Moravia (Brünn), and Silesia.

Linen and hempen goods (ropes and cordage excepted) are exported. The total value is between £12,500,000 and £16,500,000.

The *Jute* manufacture has lately much increased. It now employs 14,000 spindles, half of which are in the neighbourhood of Vienna.

3. *Wool.*—The woollen manufacture in Austria-Hungary also enjoys an ancient and high reputation. Bohemia, Moravia, and Silesia have carried it to its highest development.

The chief spinning-factories for woollen yarn are in Bohemia, Moravia, Silesia, and Upper Austria, which are able to meet the domestic demand. Bohemia and Lower Austria spin worsted yarn, but not in sufficient quantities to meet the demand. Of the 580,000 spindles, 460,000 are for woollen yarn, 120,000 for worsted yarn.

The *Cloth* manufacture is confined almost exclusively to the provinces traversed by the Sudetic range. In Moravia the principal centre is Brünn, which sustains competition even with English fabrics. Next in order are Iglau and Trebitsch, the latter of which weaves military cloth, even for export. In Bohemia the principal cloth-weaving places are Reichenberg, Gablonz, Friedland, etc.; in Silesia: Bielitz, Jägerndorf, Troppau, etc.; in Galicia: Biala. Viktring, in Carinthia, contains the best factory for very fine cloth. In Hungary, Losoncz and Kronstadt also weave cloth.

Unfulled Cloth is manufactured in Styria (Graz, Friedberg), and Tyrol; coarse *white cloth* in Hungary and Transylvania.

Worsted fabrics are made in Reichenberg and Böhmisch-Aicha.

Vienna produces the best *Shawls;* others are made in Bohemia and Moravia.

The *Carpets* of Vienna are the finest and most beautiful; next are those of Linz, Maffersdorf, Reichenberg, Innsbruck, and Essegg.

4. *Silk.*—The cultivation of the silk-worm flourishes chiefly in *South Tyrol,* and most of the silk-winding and spinning factories are at Roveredo and Trent. Vienna, with 150 establishments and 13,000 workmen, takes the lead in the manufacture of all kinds of *Silk* and *Velvet Goods.* Bohemia and Pest follow at some distance. Most of the raw silk used is imported.

5. *Mixed Goods* are produced in Bohemia and Lower Austria.

Hosiery in Bohemia (Teplitz, Asch), and in Moravia, Silesia, and Vienna.

Fezes, an important article of export to the East, are manufactured in Strakonitz, Vienna, and Brünn.

Lace and *Embroidery* are made chiefly in Northern Bohemia and Vienna; *White Embroidery* in North Bohemia and Vorarlberg.

Metal Industries.—The metal industry is one of the principal resources of the country, but though a very great variety of articles is produced, the home demand is not covered by the home supply. The rich fund of raw material renders a considerable extension of the industry possible. The most numerous as well as the best-organized establishments are found in Styria, Upper Austria, Carinthia, Carniola, Bohemia, Moravia, and North Hungary.

Steel (recently considerable quantities of Bessemer and Martin steel) is manufactured in Styria (Neuberg, Zeltweg), Carinthia, Lower Austria (Ternitz), and Upper Austria; also in Bohemia and Moravia, and in Hungary (Reschitza and Diosgyör).

All these districts, except Upper Austria, also produce *Rails.*

Iron-plates are made in Styria, Lower Austria, and the Sudetic provinces. *Wire* in Styria, Carinthia, and Lower Austria.

Cast-iron Goods are produced in Lower Austria (Vienna), Bohemia, Moravia (Blansko), and Upper Hungary. *Iron Utensils* at Vienna, Brünn, and Pilsen.

The *Scythes* of Austria are unapproached by any other country. In the 151 factories about 7,300,000 scythes, 1,300,000 sickles, and 400,000 hay or straw knives are annually produced. The chief centres of this branch of industry are *Steyr*, the "Birmingham of Austria," in Upper Austria, Waidhofen-an-der-Ybbs, Leoben, and Klagenfurt.

The best *Cutlery* is made at Steyr and Vienna; the best *Tools* at Vienna, Steyr, and Scheibs.

Nails, *Wire-nails*, *Screws*, *Rivets* are made in Lower Austria (Vienna, Wiener-Neustadt, Neunkirchen), Carniola and Bohemia.

Weapons at Steyr, Vienna, Budapest; *Fireproof Safes* and *Iron Furniture* at Vienna.

Copper and *Brass Goods* in Lower Austria and Styria; *Bronzes* of all kinds at Vienna; *Lamps* at Vienna. *Leaden Goods* in Carinthia (Villach and Ober-Vellach) and Lower Austria. *Zinc-plates* in Moravia; *Zinc Goods* in Vienna.

Gold and *Silver Goods* are produced at Vienna, Prague, and Budapest; but large quantities are imported from France and Germany.

German Silver and *Electro-plate* at Vienna.

For *Machinery*, which is to a certain extent the basis of modern manufacturing industry, Austria-Hungary is not yet independent of foreign supplies, but the native production is steadily increasing in amount. The largest machine-works are those of Vienna, Pest, Prague, and of Wiener-Neustadt, Graz, and Brünn. All these towns produce locomotive engines, steam motors, and machinery for manufactures. Trieste and Pola manufacture marine engines; Vienna and Pest agricultural and electric machines. Steyr also makes electric apparatus. The sewing-machines of Vienna are noted. Large quantities of machinery are imported from Germany, England, Switzerland, and even America.

Glass and Earthenware.—In the manufacture of *Glass*, one of the most celebrated branches of Austrian industry, Bohemia maintains the first rank in virtue of its abundant quartz and firing-material. The provinces of the Alps and the Carpathians are far behind. The chief Bohemian glass-works are the Adolfshütte, near Winterberg, with 500 workmen; the works at Eleonorenhain, Haida, and Steinschönau, with 6000 polishing-machines; Neuwelt, Gablonz (glass-beads), with 6000 hands. Aussig is the chief centre for bottle-glass. The glass-works near Gmünd in Lower Austria, and those in the northern divisions of Hungary, are also important.

Mirrors are made also, chiefly in Bohemia, at Deffernik, Neuhurkenthal, and Bürgstein.

The best *Porcelain* is also produced in Bohemia, which contains 26 porcelain factories. The chief are at Elbogen, Schlaggenwald, Pirkenhammer, and Klosterle near Karlsbad. The district of Eger alone contains 18 factories, employing 4000 hands, and turning out goods to the annual value of about £250,000, partly exported to the East and to America. The porcelain-factory of Herend, in Hungary, is famous.

Earthenware is manufactured in Bohemia; *Terra-cotta* in Vienna and Salzburg.

Other Industries.—The *Leather* industry is carried on in nearly all the crown-lands; especially, however, in Lower Austria (Vienna and Krems), Bohemia (Prague and Pilsen), Moravia (Brünn and Trebitsch), Galicia and Hungary (Budapest). South Hungary and Galicia produce Cordovan leather.

Vienna is noted for fine *Leather-goods*, *Shoes*, *Gloves*, *Saddlery*, and *Travellers' Requisites*, in all of which it offers successful rivalry even to Paris.

India-rubber Goods are made at Vienna and Teplitz.

Paper-making is steadily increasing in extent as well as in excellence, and is now carried on in 200 mills (besides smaller factories), scattered all over the empire, except in Dalmatia and Istria. The largest mills are those of Schlöglmühl, in Lower Austria (the largest on the Continent), Pitten, and those of Northern Bohemia (50 establishments), Styria, Upper Austria, Fiume, etc.

Coloured Paper and *Wall Papers* are made principally in

Vienna; papier-maché in Vienna, Graz, and Gablonz; thick *Cardboard* in Bohemia.

Playing-cards at Vienna, Graz, Innsbruck, and Budapest.

Except in the one item of wall-papers Austria-Hungary produces sufficient paper for its own requirements.

The manufacture of *Wooden Articles* has received considerable impetus within the last few decades. On the one hand efforts have been made to take fuller advantage of the timber of the country by the establishment of saw-mills, planing-mills, factories for the manufacture of bent-wood articles, blinds, parquet-work, etc., and on the other hand great progress has been made in the finer varieties of wood-work. Vienna, Prague, and Budapest produce fine joinery and turned goods in the greatest perfection; and tasteful carvings and toys (Berchtesgaden goods) are made in Salzburg, Tyrol, Styria, and in the Erzgebirge. *Bent-wood Furniture* is a universally famous export of Austria-Hungary. The *Turned Goods* of Vienna (buttons, meerschaum and amber goods, carved ivory, walking-sticks, and fans) enjoy a world-wide reputation, and their moderate price encourages an export-trade to a value of hundreds of thousands of pounds. Viennese joinery, turnery, and carving are sent even to Paris.

The *Tobacco Manufacture* is a government monopoly in Austria-Hungary, and the cultivation of tobacco is therefore limited by certain "concessions." The 38 factories (10 in Hungary) employ upwards of 36,000 workmen, and produce annually goods to the gross value of £9,166,000. The largest factories are those of Hainburg, Sedletz (Bohemia), Göding and Iglau (Moravia), Fürstenfeld (Styria), Sacco (Tyrol), Linz, Fiume, Budapest, and Kaschau. Government also imports tobacco and cigars from Havanna and retails them.

Beer.—The brewing trade has a tendency to concentrate itself in very large and thoroughly-equipped establishments at the expense of the smaller breweries. The largest breweries are situated chiefly in Bohemia (Pilsen), Lower Austria (Vienna, Schwechat[1]), Styria (Graz), Moravia, and Hungary.

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[1] Schwechat, with the largest brewery on the Continent, produces annually 9,900,000 gallons of beer, and pays about £125,000 of excise-duty.

Large quantities of beer are exported. The total number of breweries in Austria-Hungary is 2133, of which 2000 are in Austria proper. The total annual production of beer is 246,400,000 gallons.

Brandy is distilled principally in Galicia, Hungary, Bukowina, Bohemia, Moravia, and Lower Austria. Slivovitz is made in Croatia and Slavonia; maraschino in Dalmatia. In 1887 the empire contained nearly 150,000 distilleries, only 2000 of which, however, were on anything like a large scale. The others were mostly carried on by farmers as a subsidiary branch of husbandry.

Beetroot Sugar is prepared in 214 factories, of which only 26 are in Hungary. In 1889-90 the total produce was 616,000 tons. This sugar has almost entirely superseded the dearer colonial produce, and is even exported. The most numerous and the largest works are in Bohemia, Moravia, Silesia, and Hungary.

Coffee Substitutes are produced in Upper and Lower Austria, Tyrol, Moravia, Bohemia, and Styria (Graz).

Flour-mills are steadily prosperous, though the smaller establishments are gradually disappearing. Nearly all the crownlands now possess extensive steam-mills, which are steadily acquiring a monopoly of the flour-trade. Hungary contains 500 out of the 850 steam-mills of the country. The largest are at Budapest, Temesvar, Vienna, Ebenfurth, and Kleinmünchen (in Upper Austria).

Stearine Candles and *Soap* are made at Vienna (Apollo candles), Stockerau, Liesing, Trieste, Prague, Brünn, Bielitz, Budapest, etc.; paraffin candles at Mährisch-Ostrau. Debreczin and Szegedin carry on small manufactures in similar wares.

Olive Oil is produced in Dalmatia and Istria; *Rape Oil* in Lower Austria, Bohemia, and Hungary.

Chemicals are made principally in Bohemia (Aussig, Kralup, Pilsen, and Prague), Lower Austria (Liesing and Unterheiligenstadt), and Silesia (Hruschau). *Potash* in Slavonia and Transylvania; *Tartar* in Hungary. *Drugs* and *Perfumery* at Vienna; *Ultramarine* in Lower Austria and Bohemia; *White Lead* in Carinthia; *Cinnabar* in Idria and Budapest.

The Austrian *Match-Manufacture* has long been well known. Its chief seats are Lower Austria (Vienna) and Bohemia (Prague, Budweis, and Schüttenhofen).

The following *Complex Manufactures* have been brought to a high pitch of excellence in Austria:—

Ship-building. — River-craft are built at Linz, Budapest (Altofen), Szegedin, and Prague. The sea-going ships from the stocks of *Trieste*, Fiume, and Pola, are little inferior to the ships built in England or by other maritime nations.

The Austrian *Carriages* are nowhere excelled; they are in demand all over the world, even in Paris.

Railway-carriages are built at Vienna, Prague, and Budapest.

A high reputation is also enjoyed by the *Musical*, *Philosophical*, and *Surgical Instruments* and *Clocks* made in Austria; especially the pianofortes of Vienna and the wind-instruments of Bohemia.

A considerable demand has lately developed itself for Viennese *Ready-made Clothing*, *Trimmings*, *Underclothing*, *Household Linen*, etc. These articles are largely exported to the East and to the Danubian principalities.

About 3,000,000 persons are engaged in the manufactures of Austria. The total value of the manufactures of the entire country averages about £141,600,000, of which Bohemia contributes one-sixth, Lower Austria one-seventh, Moravia and Silesia one-tenth.

TRADE AND COMMERCE.

It is obvious that even the *Domestic Trade* of a country so extensive as Austria-Hungary, and with so many different stages of civilization represented in its population, must be very considerable. And it has already been mentioned that the less advanced parts of the monarchy in the south-east and north-east derive the greater part of their manufactured goods from the more developed western provinces, paying for them in grain and other raw produce.

But besides this active domestic trade, Austria-Hungary, from its position between the most advanced and the most backward of the states of Europe, also carries on a large *Export Trade* to the latter, and an extensive *Import* and *Transit Trade* with the former. In addition to this we must reckon Austria's share in the maritime trade of the world, maintained *viâ* the Adriatic—a share which has been momentously increased by the cutting of the Suez Canal,—before we complete our picture of the commercial importance of Austria-Hungary.

1. **Domestic Trade.**—The domestic trade of Austria-Hungary, attaining an immense volume through the mere exchange of the manufactures of certain provinces for the raw produce of others, finds its chief natural help in the rivers.

The *Danube*, whose whole course within the empire (840 miles) is navigable by steamers, is the most important stream in this connection. It traverses Austria (Linz, Vienna) and Hungary (Pressburg, Raab, Waitzen, Budapest), skirts the former Military Frontier (Neusatz, Bazias, Orsova), and enters the countries of the Lower Danube, thus affording the best and cheapest means of communication with the East. Its numerous tributaries, which flow to it from every crown-land, facilitate the transport of the most varied products to this main artery of traffic.

Since 1830 the *Danube Steamship Company's*[1] steamers and barges have regularly traversed the Danube throughout its whole navigable length. This company is the largest river-navigation company in the world; its vessels ply on the Danube from Ratisbon to Galatz, and on the Black Sea to Odessa. In 1886 the company owned 186 steamers of 17,000 horse-power, and 727 iron barges. From Pressburg to the boundary of Upper Austria the steamers ascend the stream by the aid of a cable in mid-channel. The navigation of the Danube cannot develop itself after the pattern of the Rhine and the Elbe, owing to the character of the stream, which above Vienna resembles a mountain-torrent, the scanty cultivation (especially in Hungary) on its banks, and the fact that it flows into the remote Black Sea. This company has steamers also on the Theiss (to Namény), the Save (to Sissek), the Drave (to Barcs), and the Inn (to Braunau).

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[1] Donau Dampfschiffahrts Gesellschaft. About 60 steamers and 350 barges of other owners also ply on the Danube.

The second important water-way is that offered by the *Moldau* and *Elbe*, leading through Bohemia to Saxony, Prussia, and Hamburg on the North Sea. It is of particular value for the export of coal (1,100,000 tons in 1886).

The *Vistula* maintains water-communication with Russia and Prussia.

The *Dniester*, flowing to the Black Sea, and the *Adige*, entering Italy, are of less importance.

Austria-Hungary possesses 5000 miles of water-ways (rivers and canals) navigable by rafts or boats; but it labours under the disadvantage that the mouths of all these lie in foreign states. The interruption to trade thus entailed is largely obviated in the present advanced times by means of treaties of navigation.

Roads.—The number and quality of the *Roads* are subject to much variation in the different crown-lands. The east is much inferior to the west in this respect. Parts of Hungary, Galicia, Transylvania, and Bukowina suffer considerably from the want of roads. Numerous roads among the Alps and the adjoining provinces facilitate intercourse with Italy and between the Alpine valleys themselves.

Austria-Hungary contains in all about 99,000 miles of carriage roads, 30% of which are in Hungary.

Railways.—The first railway in Austria was begun in 1836, but the great development of the Austrian railway system dates only from 1866. The Alpine railways constructed since that date are among the greatest triumphs of railway engineering in the world.

In 1866 Austria-Hungary possessed 4100 miles of railways, and in 1892 17,200 miles, of which 60% were in Cisleithania.[1] The three chief centres of this system, which unites all the larger towns, are *Vienna*, *Budapest*, and *Prague;* other important junctions are Pilsen, Brünn, Lemberg, and Szegedin. Upwards of 8200 miles of the railways are worked by government, the remainder by private companies. The Austria-Hungarian railway-system connects at many points with the railways of the adjoining countries, thus providing for international and foreign communications.

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[1] The distribution of the railways varies according to the state of advancement and importance of the different provinces.

Telegraphs.—All the important towns of the empire are connected with each other and with Vienna or Budapest by *Telegraph-lines,* of which there are 35,400 miles (Austria, 24,900 m.; Hungary, 10,500 m.). In 1886, 7,000,000 messages were transmitted by 3200 telegraph-stations in Austria, and 3,600,000 messages by 1424 stations in Hungary. The use of the telegraph is steadily becoming more general.

Post-offices.—In 1886 Austria contained 4347 post-offices and Hungary 3400; the former transmitted 330,000,000 letters, 77,000,000 post-cards, and money-orders to the value of £446,250,000; the latter 94,000,000 letters, 23,000,000 post-cards, and money-orders to the value of £92,250,000. The post-office of Austria-Hungary, which is a member of the Postal Union, is one of the best managed departments of state.

Banks and Finance.—Austria-Hungary is well provided with banks and financial institutions; but in all larger business operations, as well as in foreign financial transactions, it is still dependent upon foreign money-markets, especially London, Paris, Berlin, and Hamburg.

The leading financial establishments are the Austria-Hungarian Bank, the Austrian Credit Company, the Hungarian Credit Bank, the Land Credit Institution, the Länder Bank, the Anglo Bank, the Bank Society, the Escompte Bank, the Union Bank, the Hungarian Commercial Bank, the Giro-Verein, and the Cassen-Verein.

Insurance Offices and Savings Banks are on the increase. The Vienna Savings Bank is the most important. The Bohemian "Zalosnas" are also noteworthy.

Vienna, Budapest, and Trieste have the leading *Exchanges.*

Markets and Fairs.—Hungary naturally contains the most numerous and largest markets of the empire. The leading markets are as follows:—The *Grain Markets* of Ödenburg, Wieselburg, Neu-Becse, and Debreczin; the *Cattle Markets* of Ödenburg, Arad, Sadagura, and Debreczin; the *Horse Markets* of Raab, Tarnopol, Debreczin, and Chrudim. Pest, Brody, Cracow, Brünn, Botzen, etc., are also important market towns.

The chief *Centres of Trade* in general are Vienna, Prague, Budapest, Brünn, Brody, Linz, Graz, and Trieste.

2. **Foreign Trade.**—Austria-Hungary maintains commercial relations with every trading nation in the world. The foreign trade of the monarchy is inferior to that of other mercantile peoples, as the British, Germans, French, and Americans; but the constant efforts of government and of the merchant class to increase it certainly deserve recognition. The mercantile interests of Austria-Hungary are protected all over the world by consuls and commercial treaties.

Austrian foreign trade is characterized, broadly speaking, by a large export of manufactured articles to the east and south in exchange for raw produce; and an export, on the other hand, of raw produce towards the west in exchange for manufactures. Five-sixths of its whole volume are carried on by land, and only one-sixth by sea.

Maritime Trade.—Austria-Hungary has a coast-line 1055 miles in length. Dalmatia, Croatia, and Istria abound in good and spacious harbours (*e.g.* Cattaro, Spalato, Zengg, Zara, Pola, etc.), but they are of comparatively slight importance, owing to the poor and unproductive districts in which they lie, and their defective land communications with the rest of the empire.

The great bulk of the maritime trade is concentrated in *Trieste,* besides which *Fiume* is now rising into note. Its situation on the Adriatic Sea naturally directs the maritime trade of Austria to the Mediterranean, but the construction of the Suez Canal has also opened to it the East in the widest sense of the term. The Austrian flag is most frequently met with in the East; Austrian ships rarely cross the Atlantic.

Austrian navigation in the Mediterranean includes the coasting-trade in the Adriatic Sea, and the longer voyages t the Black Sea and Gibraltar.

The central point of the whole maritime trade of the empire is *Trieste*, which has been made one of the leading ports in Europe, through the construction of railways and extensive harbour works by government. The flags of all nations, especially of Great Britain, Italy, Greece, Germany, Turkey, Russia, and the United States, are seen in this harbour, which has communications not only with all the Mediterranean ports but also with Great Britain, the Netherlands, India, the West Indies, the United States of North America, and Brazil.

The development of Trieste has been much assisted by the foundation of the *Austria-Hungarian Lloyd* in 1833, a shipping company owning about 70 steamers plying regularly to Venice, Ancona, Corfu, Syra, Saloniki, Smyrna, Constantinople, Varna, Odessa, Trebizond, Beirût, and Alexandria; and in recent times also to Bombay, Calcutta, Singapore, Hong Kong (*viâ* Suez), and Brazil. This company, which is subsidized by government for maintaining a mail service to the East, builds nearly all its own ships in its private building-yards at Trieste.

In 1891 upwards of 7800 vessels, with a total burden of 1,474,865 tons (5675 vessels with 835,518 tons were Austrian), entered at Trieste. The imports were valued at £13,495,000; the exports at £13,898,000. The position of Trieste as a great entrepôt of trade will be understood from the statement that the exports by land in 1891 were £13,172,600, the imports by land £11,393,000.

Fiume and *Pola* (naval station) are next in importance to Trieste. The trade of the former has received a powerful impetus from the care of the Hungarian government. The "Adria" steamship line, subsidized by the Hungarian government, unites Fiume with the chief ports of England and France.

The Austria-Hungarian *Merchant Fleet* in 1892 embraced 261 sea-going vessels, with a total capacity of 186,810 tons; 1734 coasting-craft, with 43,500 tons; and 8385 fishing-smacks, etc., with 20,000 tons—*i.e.* a total of about 10,380 sail, with an aggregate capacity of 250,000 tons. These vessels were manned by about 29,000 men, enlisted chiefly among the peoples of Dalmatia and the Illyrian Archipelago, who make excellent seamen.

In all the harbours of the Austria-Hungarian empire in 1890 137,000 vessels entered and cleared, with a total burden of 17,000,000 tons.

There is a royal and imperial Academy of Trade and Navigation at Trieste.

Customs. — The internal *Customs Barrier*, which divided Hungary from the other crown-lands and seriously hampered all intercourse, was removed in 1851. By the commercial treaty of 1867 the two halves of the empire were united to form one customs district, which is now, along with Bosnia, Herzegovina, and the principality of Liechtenstein, embraced by a common customs boundary. The *Coinage* and *Monetary Matters* are common; and salt, tobacco, brandy, beer, and sugar are taxed on principles common to both countries.

The *Customs Boundary* coincides with the boundaries of the empire, the ports of Trieste and Fiume having ceased to be free harbours.

The export-duties and transit-dues have been either abolished or much reduced. In 1892 the customs revenue (including Bosnia) was £4,000,000.

Austria-Hungary has concluded *Commercial Treaties* with the German Customs Union, England, France, Germany, the Netherlands, Switzerland, Turkey, Russia, and even with China and other extra-European states.

But there are still many defects to be remedied.

Imports and Exports.—The chief *Imports* are:—

Grain from Russia and Turkey; leguminous vegetables, rice, clover and other seeds, *wine*, flax, and hemp from Russia and Italy; spices and southern fruits, *coffee*, *tea*, *tobacco*, *cotton* (annual value £4,000,000 to £5,000,000), indigo, and dye-woods.

Horned Cattle (83,000 head), horses, swine, skins, hides, *furs*, tallow (from Russia), and *wool* (£3,000,000 to £4,000,000).

Coal (chiefly of the better sort) from Prussia and Great Britain (2,200,000 tons); *petroleum*, *gold*, *silver*, iron (120,000 tons), and *zinc* (8900 tons) from Prussia.

Flour, *ground-grain*, *oil*, *silk* (28,000 cwts.).

Cotton and *woollen yarn*, and *silk goods* from England, France, Russia, and Switzerland.

Iron and *steel goods*, *watches*, and machinery from England, Belgium, France, Germany, and Switzerland.

Leather, French fancy articles, books, cards, etc.

Most goods imported from extra-European countries, as well as those from Italy and the Levant, are sent *viâ* Trieste in order to take advantage of the differential customs rates which prevail there.

The chief *Exports* are:—

Grain and *Flour* (upwards of £8,330,000), wine (876,000 cwts.[1]), and timber.

Horned cattle (92,000 head), horses, hides, skins, *feathers*.

Coal (3,700,000 tons), quicksilver.

Sugar, ground grain, flax yarn, silk and cotton goods, *linen*, *hempen goods*, *woollen goods*, *hardware*.

Bohemian glass is sent all over the world, *porcelain*, bentwood furniture, *ironmongery* (edge-tools), *matches*, *leather goods*, india-rubber goods, Viennese fancy articles.

Fezes, instruments, and carriages are largely sent to the East.

In 1891 the *Imports* were valued at £54,000,000; the *Exports* at £67,000,000.

Austria-Hungary is peculiarly advantageously situated for carrying on a transit-trade. The chief trade-routes run:—

1. From South Germany *viâ* Tyrol to Trieste and Italy; thence to the Levant.
2. From Prussia and Saxony to Trieste and Italy.
3. From Saxony and Bavaria *viâ* Vienna to Hungary, and thence to the Danubian Principalities, etc.
4. From Prussia *viâ* Galicia to the same lands and back.

The chief items in this trade are colonial produce, petroleum, southern fruits; manufactures of all kinds from Western Europe; cotton, grain, spirits, furs, tallows, wax, etc.

In 1882 the transit-trade represented a value of £23,900,000 (excluding the precious metals), but it has somewhat decreased since then.

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[1] In the official returns the export of wine is calculated by weight.—TR.

BOSNIA AND HERZEGOVINA.

By the treaty of Berlin (July 13th, 1878) Austria-Hungary was authorized to occupy and administer Bosnia and the Herzegovina, which had previously belonged to Turkey. These two provinces now form one administrative district, under the imperial ministry of finance. The head of the government is the commander-in-chief of the garrison.

The occupied territory has an area of about 20,500 square miles, with a population of 1,300,000 (exclusive of the military), or not quite 64 inhabitants per square mile. It is thus one of the most sparsely populated districts under the Austrian crown.

Ethnologically, 98% of the population are Slavs of the *Croatian-Serbian stock;* but in Bosnia, as elsewhere in the East, *Religion* and not nationality forms the basis of union among the people. About 42% belong to the Greek Church, 37% are Mahometans, 20% Roman Catholics, and about 6400 are Jews. Education is at a very low ebb. The provinces in 1886 contained 150 primary schools, a gymnasium, a teachers' and two ecclesiastical seminaries, a military school, trade schools, and two agricultural schools. These were attended by about 9000 pupils. The condition of the provinces, which had been neglected by Turkey to a most extraordinary extent, is being completely transformed by the Austria-Hungarian government, but years must pass before the full fruits of the changes can be reaped.[1]

Physical Features.—Bosnia and the Herzegovina are both mountainous districts, forming part of the great limestone plateau of the Karst, which, as we have seen, rises steeply from the Adriatic Sea in Croatia and Dalmatia, under the names of the Kapella Mountains and the Dinaric Alps, and gradually slopes down in Bosnia towards the Save. This mountain mass, rising to upwards of 6500 ft. above the sea-level, with its bald summits and its deep narrow valleys and

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[1] Cf. Zehden's *Bosnia und die Herzegowina*, 1887.

"dolines," presents all the characteristic appearance of the barren Karst, especially in the south and the west, where it has been stripped of its trees by the Romans and Venetians. The well-wooded mountains of the north and east produce a severe and sometimes gloomy impression, but they are none the less beautiful.

The water-shed between the Danube (Black Sea) and the Adriatic Sea traverses the provinces. On the northern slope lies Bosnia, with the *Bosna*, *Verbas*, *Una*, and *Drina*, all tributaries of the Save; on the south slope is the Herzegovina, with the *Narenta*.

There are no plains of any size.

The **Climate** is subject to great extremes of temperature. Only a few valleys of the Herzegovina, in the vicinity of the sea, have mild winters, so that southern fruits are grown there. In the interior the winter lasts for seven or eight months, and the summer is extremely hot.

The chief towns are Serajevo (26,000 inhab.), Maglai, Zenicha, Banialuka, Mostar (13,000 inhab.), and Fotcha.

The resources of the country have been almost totally neglected. The primitive **Husbandry** produces about 6,000,000 cwts. of grain and 3,000,000 cwts. of maize. The extensive forests (on the mountains oaks, in the valleys Turkish plum-trees) yield barrel-staves and Turkish plums for export. Good wine, though but little attended to, is produced on the banks of the Save. The peasants all over the country manufacture a coarse spirit (slivovitz[1]) from "zwetschken," or Turkish plums.

More attention is bestowed upon the breeding of **Domestic Animals.** At the last census the provinces contained 160,000 small but hardy horses, 750,000 horned cattle, also of a small breed, 800,000 sheep, 500,000 goats, and as many pigs.

Even the larger estates of the Turkish nobles ("begs") and the lands belonging to the Mahometan Church (vakuf) are wretchedly farmed. Immigration is expected to produce a change for the better.

A beginning has been made in the exploitation of the

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[1] Cf. foot-note on p. 278.—TR.

Minerals, which were entirely neglected by the Turks. The country is remarkably rich in iron, manganese, chrome, and antimony, the proper exploitation of which is only hindered by the absence of the means of transport.

The native **Manufactures**, which are exclusively domestic and small handicrafts, do not even cover the simple needs of this humble population. With the exception of rough smiths'-work and leather, and coarse linen and woollen fabrics, all the better manufactured articles require to be imported.

When Austria first occupied the country the **Means of Communication** were of the most wretched description, and the first task undertaken by the new government was the construction of *Roads* and *Railways*. There is little doubt that Bosnia and the Herzegovina will prove to be rich and valuable territories when the means of communication have been once properly developed. About 2800 miles of roads have already been completed. Railways (270 miles) have also been finished between Türkisch-Brood, Zenicha, and Serajevo; between Novi and Banialuka; and between Mostar and Metkovich.

Steamers ply on the Save, and the course of the Narenta has been regulated for navigation as far as Metkovich.

The chief towns are connected by *Telegraph-lines* and have *Postal Communication.*

The foreign trade, which consists in the export of the above-mentioned raw produce in exchange for manufactured goods, petroleum, wine, coffee, and other colonial produce, etc., is almost entirely in the hands of Austria-Hungary, owing to the relaxation of the custom-duties on behalf of that country. The retail trade is chiefly in the hands of Spanish Jews.

SWITZERLAND.

Situation and Boundaries.—Switzerland lies between 49° 50′ and 47° 45′ N. lat. and between 6° and 10° 25′ E. long. It is bounded on the west by France, on the north by Alsace-Lorraine, Baden, and the Lake of Constance; on the east by Austria-Hungary and Liechtenstein, and on the south by Italy.

It embraces an area of 16,400 square miles, and has a population of 2,850,000.

POPULATION AND CONSTITUTION.

The people of Switzerland belong to several stocks. Upwards of 2,000,000 (71%) are *German*, 600,000 are *French* (in Geneva, Vaud, Neuchâtel, Valais, Freiburg, and part of Bern), 160,000 are *Italian* (in Ticino), and 40,000 are *Rhæto-Romanians* (in the upper valley of the Rhine, the Albula valley, and the Engadine).

The *Religious Census* returns about $\frac{2}{3}$ of the population as Protestant (Reformed), and the remainder as mostly Roman Catholics (chiefly in the cantons of Schwyz, Uri, Unterwalden, Zug, Valais, Ticino, Solothurn, and Lucerne), with the exception of 7000 Jews.

The most densely populated canton is Geneva, with 931·8 inhabitants per square mile; the most sparsely inhabited is Grisons with 33. The average is 176·6.

The Swiss are highly educated in every respect. Education is diffused throughout the whole population by means of numerous schools of all kinds (cantonal schools, gymnasia, industrial schools, special schools). Recruits unable to read and write are hardly ever met with. Among the famous educational institutions of this country are the Universities of Zürich, Bâle, and Bern, the Academies of Geneva and Lausanne, and the "Federal Polytechnic" at Zürich, which attracts pupils from all parts of Europe. Nearly all the Swiss of the better classes learn to speak two languages, often even three, from their childhood, a fact which is of great help to them in later life, and assures them an influential position in the commerce of the world.

Switzerland enjoys a *Republican Constitution*. The Swiss Republic consists of 25[1] autonomous cantons,[2] united to form a federal state, for the protection of the rights, liberties, and well-being of the confederates from dangers both from without and from within.

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[1] Strictly speaking there are only 22 cantons, but 3 of these are each divided into two.

[2] Each canton is self-governing. At the head of each is a State or Government Councillor, chosen by the whole canton, who has full executive power. The Landamman is the president of the canton. Similar officials are appointed over the districts and communes, or subdivisions of the cantons. The cantonal constitutions must agree in their main features with the federal constitution of May 29th, 1874.

The supreme *Legislative Power* is exercised by the Federal Assembly (Bundesversammlung), consisting of two chambers, the National Council (Nationalrath, with 145 members), and the State Council (Ständerath, with 44 members).

The highest *Executive Power* is in the hands of the Federal Council (Bundesrath), consisting of seven members. The chairman of this council is President of the Federation (Bundespräsident).

Justice is administered in cantonal and district courts. The supreme court is the Federal Tribunal (Bundesgericht), consisting of 9 members appointed for six years, assisted by 9 assessors.

Bern is the seat of government and of all federal bureaux.

Of late years there has been a strong tendency in favour of centralization in Switzerland.

PHYSICAL FEATURES.

Switzerland is the most mountainous country in Europe. Three-fourths of its area are covered with mountains.

The chief ranges are:—

1. The Alps, running from west to east.
2. The Jura, running from south-west to north-east.
3. The Swiss Plateau, 1150–1330 ft. high, lying between the two former.

The Alps are divided by the Rhone, the Furka Pass (7970 ft.), and the Rhine into the *Central Alps* and the *Northern Limestone Alps.*

The Central Alps, to the south of this line, include:—

1. The *Pennine* or *Valais Alps,* extending from the Great St. Bernard (8110 ft.) to the Simplon (6630 ft.). The loftiest peaks are the Matterhorn (14,700 ft.) in the middle, and the Monte Rosa (15,217 ft.) in the east.
2. The *Lepontine Alps,* extending from the Simplon to the

Splügen. This chain is crossed by a number of important passes to Italy:

a. Simplon Pass, from Brieg in Valais to Domo d'Ossola on the Lago Maggiore.

b. St. Gotthard Pass (6930 ft.), from the Reuss (Lake of Lucerne) to the Ticino (Lago Maggiore).

c. Bernardino Pass (7000 ft.), from the Upper Rhine to the Lago Maggiore.

d. Splügen Pass (6945 ft.), from the Upper Rhine to the Lago di Como.

3. The *Grisons Alps*, between the Rhine and Inn, extending as far as the Arlberg. The Maloja Pass (5960 ft.) unites the upper valley of the Inn (Engadine) with the Lago di Como, and the Julier Pass (7500 ft.) leads from the Upper Engadine northwards to Coire.

4. The *Bernina Group*, between the Inn and Adda, the valleys of which are united by the *Bernina Pass* (7700 ft.). Piz Bernina (13,290 ft.).

The *Northern Limestone Alps* of Switzerland include:—

1. The *Bernese Alps*, between the Rhone and the Aar, whose sources are united by the Grimsel Pass (7100 ft.). The northern slope of these Alps is known as the Bernese Oberland. Chief peaks: Finsteraarhorn (14,025 ft.), Wetterhorn, Schreckhorn, Jungfrau (13,670 ft.).

2. The *Gallenstock*, between the Upper Aar (Hasli valley) and the Reuss.

3. The *Glarner Alps*, between the Rhine and Reuss; chief peak, the Tödi (11,840 ft.).

To the north of these three groups the chief summits are: Pilatus (6995 ft.); the Rigi (5840 ft.), above the Lake of Lucerne; and the Sentis (8215 ft.), in the south of Appenzell.

The southern *Slope of the Alps* is steep, but the northern slope is gradual. Glaciers occupy an area of 975 square miles, and snow-fields 2540 square miles.

The *Jura* is a somewhat barren range of limestone mountains, with heights rising to 5450 ft. (Dôle in canton Vaud).

RIVERS AND LAKES.

Switzerland, owing to the Alps, is peculiarly well supplied with water, as nearly every valley is traversed by a larger or smaller stream, often interrupted in its course by romantic waterfalls. No fewer than 2700 brooks and rivulets in Switzerland belong to the basin of the Rhine alone.

The impetuous character of the streams, however, renders them entirely useless for navigation, though it fits them all the more for industrial purposes, for the glaciers are the sources of a perennial water-supply.

All the chief rivers of Switzerland rise in the neighbourhood of the St. Gotthard mountain. They are the *Rhine* (entering the Lake of Constance) with the Thur, the Aar (receiving the Saane and Emmen), the Reuss (flowing through the Lake of Lucerne), and the Limmat (traversing the Lake of Zürich). The Rhine debouches in the North Sea.

The *Rhone*, receiving the Doubs, flows westward to the Lake of Geneva, and thence to the Mediterranean.

The *Inn*, in the east, finds its way to the Black Sea *viâ* the Danube.

The *Ticino*, flowing to the south, enters the Lago Maggiore, and finally, joining the Po, enters the Adriatic Sea.

Besides those already mentioned, Switzerland contains a large number of smaller *Lakes*. The chief are those of Lugano, Neuchâtel, Biel, Murten, Brienz, Thun, Zug, and Waldenstadt. These lakes contribute greatly to make Switzerland, which is yearly visited by upwards of a million strangers, one of the most beautiful mountain-lands in the world.

The chief canal is the *Linth Canal*, which unites the lakes of Wallenstadt and Zürich, at the same time draining the entire neighbourhood and converting it into a fruitful region.

CLIMATE.

The great irregularities of the surface are naturally accompanied by a corresponding variety of *Climate*.

Ticino, Vaud, and Geneva enjoy an almost Italian climate, with a mean temperature of 51° to 53·5° F., in which southern fruits ripen. On the Swiss plateaux and the lower mountain valleys a temperate climate prevails (mean temp., 50° F.[1]), while in the higher valleys the climate is very severe and subject to great extremes.

The *Rainfall*, as is usual among lofty mountains, is very great. On the higher Alps, which are free from clouds for not more than a fourth of each year, the annual fall is from 78 to 97 inches; on the plateaux it is 33 inches. The *Snow-line* on the southern side of the Alps stretches down to a height of 10,170 ft. above the sea-level; on the northern side to 8530 ft.

The *Föhn*, a warm south wind, works great havoc by melting the snow, and so producing avalanches and inundations.

CHIEF TOWNS.[2]

1. *Canton Bâle* (town and country).—*Bâle* or *Basel* (72,000 inhab.), Schweizerhall.
2. *Aargau.*—Aarau, Baden, Zofingen.
3. *Zürich.*—*Zürich* (27,000, or including the nine suburbs, 90,000 inhab.), Winterthur, Wädenswyl.
4. *Schaffhausen.*—Schaffhausen.
5. *Thurgau.*—Frauenfeld, Romanshorn.
6. *St. Gallen.*—*St. Gallen* (25,000 inhab.), *Rorschach*, Rapperswyl, Ragatz, and Pfäffers.
7. *Appenzell* (Innerrhoden).—*Appenzell*; (Ausserrhoden), *Trogen*, Herisau.
8. *Grisons* (Graubünden).—*Coire* (9000 inhab.), Thusis (the "Via Mala" to Chiavenna begins here), St. Mauritz.
9. *Ticino* (Tessin).—*Lugano*, Locarno, *Bellinzona*, Airolo.
10. *Valais* (Wallis).—*Sion* (Sitten), Martigny, Leuk, Simplon.
11. *Vaud* (Waadt).—*Lausanne* (33,000 inhab.), Yverdon (Ifferten), Grandson, Valley of the Joux, Vevey, Bex.
12. *Geneva.*—*Geneva* (52,000, or with suburbs, 73,000 inhab.).
13. *Neufchâtel* (Neuenburg).—Neufchâtel, Chaux de Fonds (23,000 inhab.), Le Locle, Val des Travers, Valangin.
14. *Solothurn.*—*Solothurn.*

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[1] Bern has a mean temp. in Jan. of 33·8°, and in July of 60·8° F.

[2] 1887.

15. *Freiburg.—Freiburg* (12,000 inhab.), Murten.
16. *Bern.—Bern* (50,000 inhab.), Biel, Thun, Interlaken, Meiringen, Münsterthal.
17. *Lucerne.—Lucerne* (20,000 inhab.), Sempach.
18. *Zug.—Zug.*
19. *Schwyz.—Schwyz*, Brunnen, Einsiedeln.
20. *Uri.—Altdorf*, Flüelen, Göschenen.
21. *Unterwalden.—Sarnen*, Stanz.
22. *Glarus.—Glarus.*

Switzerland is not distinguished for large towns, but it abounds in small ones, as well as in market-towns and villages.

NATURAL PRODUCTIONS.

1. **Agriculture.**—The mountainous character of the surface by itself prevents the development of agriculture. About 31% of the area is unproductive, 15% arable land, and 35% meadows and pasture. The total amount of cereals produced is about 1,718,000 qrs., of which 1,000,000 qrs. are rye, but is equal to only about one-half of the demand. With the exception of Solothurn, Lucerne, Schaffhausen, and Freiburg, none of the cantons produces nearly enough food-plants for its own consumption; all are dependent upon importation.

The annual importations of grain (chiefly wheat) amount to between 850,000 and 1,000,000 qrs.

Potatoes are also imported. The cultivation of *Fruit* is in a flourishing condition in Switzerland, and nearly all the cantons manufacture wine or spirits from it (cherry-brandy at Bâle, etc.).

The warmer cantons in the south also produce chestnuts, almonds, walnuts in abundance, olives, and even lemons.

The cultivation of the *Vine* commands careful attention in most of the cantons. The best wine is made in Geneva, Neuchâtel, and Valais. The total amount produced is 13,200,000 gallons, but does not cover the domestic demand.

Switzerland is no longer so rich in *Timber* as formerly, for unscientific forestry has thinned the woods to too great an extent. Only about 19% of the area is now covered with forests.

2. **Live Stock.**—The abundant splendid meadow-land and mountain-pastures have developed stock-farming in Switzerland to a very considerable degree, so that this industry, which has been carried on for centuries with great diligence and success, is now of greater importance to the country than its agriculture.

The numerous herds were at one time almost the only source of national wealth, until the Swiss began to earn what their soil denied to them, by turning their attention to several peculiarly lucrative branches of manufacturing industry.

In comparison with the *Horned Cattle* (1,000,000 head) the other domestic animals are much inferior both in numbers and in importance. Cattle-breeding is carried on in all the cantons; and in the higher regions the "Alpine-farming" is the chief if not the only resource of the inhabitants. Switzerland is famous for its cheese, the annual production of which amounts to 500,000 cwts., of which three-fifths are exported to all quarters of the globe. The best cheeses are made in the Emmenthal, Maderanerthal, Ufernthal, and Gruyère. Butter must be imported.

Many Swiss cattle are exported for breeding purposes, while, on the other hand, the great influx of strangers in summer necessitates the importation of considerable quantities of fat cattle.

Next in point of numbers are *Goats* (400,000), which abound in the higher Alpine cantons, where, unfortunately, they frequently do much harm to the woods.

Switzerland has but few horses (100,000). Mules and asses are commonest in the south.

3. **Minerals.**—The Swiss mining industry is of little importance. Neither coal (20,000 tons), iron (10,000 tons), nor salt (33,000 tons), is found in sufficient quantity to meet the home demand. Among the chief mineral productions are *Asphalt*, in the Val des Travers; *Marble*, in Uri, Schwyz, and Ticino; *Slate*, in Glarus; *Rock-crystals* of great beauty; and *Sandstone*.

MANUFACTURES.

In few countries of the world has nature placed so many hindrances in the way of the development of the manufacturing industries as in Switzerland. Its natural productions fall far short of the necessities of the country; the lofty mountains are hindrances both to internal communication and to importation from without, which can be surmounted only with great labour and at great cost; the rivers are impetuous mountain-torrents, offering abundant motive-power, but useless as a means of transport; while, finally, Switzerland borders upon no sea, and is dependent upon other nations for its communications with transoceanic countries. But in spite of all these impediments, the hardy, diligent, and persevering character of the Swiss has developed a manufacturing industry which is not only the chief prop of the high state of national well-being, but also serves to place Switzerland among the chief manufacturing countries of the world. About 500,000 persons in Switzerland are engaged in manufactures, while only about 550,000 are employed in agriculture.

The chief supports of the Swiss manufactures are first the abundant and regular water-power, and secondly the intelligence of the working-classes.

The most important manufactures are those of *Cottons*, *Silk*, *Watches*, *Jewellery*, *Machinery*, *Wooden Goods*, and *Straw Goods;* or in other words, manufactures the value of which essentially depends upon the quality of the workmanship.

The *Cotton Industry*, which competes even with the English manufactures, chiefly centres in eastern Switzerland, in the cantons of Zürich, Glarus, St. Gallen, and Appenzell. It employs 2,000,000 spindles (some spinning up to No. 200) and 16,000 power-looms. *Cotton-printing* and *Dyeing* are also highly developed.

The manufacture of the well-known and moderately-priced *Machine-made Lace* employs about 10,000 machines and 17,000 workers in St. Gallen, Appenzell, and Neuchâtel.

The two principal centres of the *Silk Industry* are Bâle and Zürich, where it has been carried on for five hundred years. All kinds of silk ribands are produced at Bâle, while Zürich weaves dress goods. American competition has injured this industry within the last few years.

Watch-making, one of the most important industries of the country, centres in *Geneva* and the valleys of the unfertile *Jura* (*e.g. Locle, Chaux de Fonds*, Les Brenets, Val des Travers, and the Lac de Joux). The principle of division of labour is carried out to a remarkable extent in the Swiss factories, which turn out chiefly watches of the cheaper description. The annual produce amounts to nearly 3,000,000 watches, worth about £4,000,000. In 1885, 2,700,000 watches, worth £3,280,000, were exported. This industry has, however, been injured by over-production, and prices have fallen 50°/₀. Even the manufacturers of the formerly famous Geneva watches, in which elegance and taste are united to reliable workmanship, have suffered from the same cause. The Swiss watch-makers, like the Swiss silk-weavers, have hitherto found their principal markets in America; but since the foundation of a prosperous watch-making industry in the United States themselves, the Swiss makers have lost considerably; and the more so, as the American watch-factories are beginning also to export their goods (chiefly to India and Australia).

Geneva and the other watch-making districts also produce large quantities of *Jewellery* and *Musical Boxes.*

The well-known *Machine Works* of Zürich, Winterthur, and Geneva export a considerable part of their produce.

Parquet-work and *Wood-carving* is produced in the Bernese Oberland and other Alpine districts.

Straw-plaiting employs about 70,000 hands in Aargau, Freiburg, Grisons, and Ticino. It suffers considerably from Chinese and Japanese competition.

Leather-making and *Tanning* (4000 hands) is carried on at Zürich, Lucerne, Lausanne, and Geneva.

Mathematical, Philosophical, Surgical, and *Drawing Instruments* are made at Geneva, Bern, and Aarau.

TRADE AND COMMERCE.

The commerce, as well as the manufactures of Switzerland, has met with great natural hindrances, which, however, the resolute character of the Swiss has successfully overcome.

The advantageous position of Switzerland, between Germany, Italy, and France, has since the days of antiquity directed a considerable share of the trade of these countries across the Swiss passes. And the Swiss in the present century have constructed their admirable *Roads* and *Railways* in order to preserve this valuable transit-trade from the competition of neighbouring countries.

In the entire absence of navigable rivers, the whole international traffic of Switzerland is carried by the railways. The two main arteries of this traffic are the lines from the Lake of Constance to Geneva or Bâle, and from the north, *viâ* the St. Gotthard, to Italy.

The St. Gotthard Railway, with its tunnel 9¼ miles long, is the most remarkable example of railway engineering in Europe. Its completion has caused the direct line of communication between England and India to pass through Switzerland (London—Cologne—St. Gotthard—Brindisi—Suez), and has made Genoa the chief port of Italy.

In spite of the enormous difficulties offered by the configuration of the surface ($\frac{1}{50}$ of all the railways run in subterranean tunnels[1]), Switzerland is covered by a net-work of railways (2100 miles), only less close than those of England and Belgium. The chief railway centres are Geneva, Lausanne, Olten, Bern, Bâle, and Zürich.

In 1886 Switzerland had 5000 miles of *Telegraph-lines*, with 10,600 miles of wire, and 1335 stations, by which 3,200,000 messages were despatched, and in the same year the *Post-office* transmitted 220,000,000 communications (including 96,000,000 letters). Thus for telegraphic and postal business Switzerland must be ranked among the first countries of the world.

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[1] Switzerland contains 21 tunnels of more than ½ a mile in length.

Navigation is of importance only on the lakes, on nearly all of which steamboats ply. The chief are the Lakes of Lucerne, Zürich, Geneva, and Constance. (Railway-ferry.)

The chief commercial towns are *Bâle*, *Geneva*, *Zürich*, *Bern*, *St. Gallen*, *Lausanne*, and *Rorschach*. *Exchanges*, *Banks*, and *Insurance Companies* are numerous and well-organized.

Foreign Trade.—Most of the foreign trade of Switzerland is transacted with the four countries by which it is bounded, but the trade with England, North America, Brazil, Turkey, and the Danubian Principalities is also considerable. Russia, Spain, and even Eastern Asia also maintain commercial relations with Switzerland.

A characteristic peculiarity of the Swiss people, and one of great importance for the trade and industry of the country, is the fact that thousands of Swiss temporarily emigrate in order to amass in foreign countries property enough to enable them to return and settle in their native land. In this way thousands of the humbler ranks emigrate as waiters, confectioners, masons, etc.; while members of the more educated classes also, seeking employment all over the world as merchants, business-managers, etc., found businesses abroad, and thus benefit the Swiss trade and the Swiss manufactures to an extraordinary degree by extending the sphere of their operations.

Exports and Imports.—The chief *Exports* are cattle, cheese, hides, fruits, cherry-brandy, wine, and timber, besides various manufactures, including cotton and silk goods, watches, fine steel and iron goods (instruments, etc.), machinery, jewelry, lace, straw-plaiting, etc. The total annual value is about £26,720,000.

The chief *Imports* are provisions and food-stuffs (large quantities from Austria-Hungary, *viâ* Vorarlberg), cotton, colonial produce, coals and iron, and petroleum (large quantities *viâ* Genoa, and also *viâ* Germany and France). The total annual value is about £32.000,000.

FRANCE.

AREA AND POPULATION.

France has an area of 204,000 square miles, and a population of (1886) about 38,200,000.

The inhabitants, like the Spaniards and Italians, etc., are a mixed people of Latin or Romance origin, and both in religion and language are unusually homogeneous.[1] The course of history, aided by the uniform character of the soil, has brought it to pass that 96°/$_0$ of the population speak dialects of French, and only 4°/$_0$ on the borders (Basques, Bretons, Flemings, and Italians) speak non-French dialects.

About 78½ per cent of the French profess *Roman Catholicism*, while a large number do not identify themselves with any creed. There are about 700,000 Protestants, mostly descendants of the Huguenots, and about 50,000 Jews.

This ethnological and religious unity, accompanied by a passionate patriotism, forms the strength of France; every Frenchman, no matter to what political party he belongs, is ready to make the last sacrifice for the glory and well-being of his fatherland. The Frenchman conceives of the entire country as his fatherland, and it is owing to this feeling that the land has so many commercially valuable institutions (such as canals, railways, and harbours), designed for the common good and erected at the public cost.

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[1] The most ancient element in the population of France is formed by the *Basques* (Iberians), survivors of whom still linger in the Pyrenees. They were swept aside by the *Celts*, who long possessed France, along with the whole of Western Europe, and now form the real nucleus or core of the nation. The *Romans*, pressing into the country after the Punic wars, put an end to the old Celtic dominion, and succeeded in completely Romanizing the province of Gaul. The present language of the nation was borrowed from them. During the period of the great popular migrations several of the Germanic races founded kingdoms in the country, as the *Visigoths*, the *Burgundians*, and the *Franks*, who have given their name to the whole land. The *Northmen* or *Normans* next came to establish their duchy on the shore of the English Channel. The *British*, expelled by the Saxons from England, had before this settled in Brittany, where this Celtic race to this day has preserved some of its national peculiarities. The peasantry of lower Brittany still speak a Celtic dialect (Breton), though in the towns it is no longer understood. In the Middle Ages a distinction arose between the people of the south, who spoke the "langue d'oc" (Provençal), and the people of the north, who used the "langue d'oil" or "oui" (French proper). This distinction has, however, vanished in modern times, and the immortal writers of the age of Louis XIV. have made the northern idiom the only literary French.

The slight increase of the population (3 per 1000) as compared with the rate in neighbouring states (England 15, Germany 12 per 1000) is striking. It accounts for the slight emigration, which is counterbalanced by a considerable immigration. Upwards of 1,000,000 foreigners reside in France.

The population in France is much more uniformly distributed over the country (184 per sq. m.) than is the case in England or in Germany. Apart from the districts in which Paris and Lyons are situated, the densest population is found in Flanders and Normandy (719 per sq. m.), and the sparsest in the departments on the Alps and Cevennes, and in the "Landes" (48·6).

France contains more towns than most European countries, since each place with more than 2000 inhabitants ranks as a town. In spite of that fact, however, only 32·5°/ₒ of the population is "urban."

Education was formerly poorly organized in France as compared, *e.g.*, with Germany. In 1866 nearly 33°/ₒ of the people could neither read nor write. The adoption of compulsory education has, however, greatly mended matters. There are now more than 6,000,000 scholars attending elementary schools, and few children remain untaught.

The attendance at secondary schools (lycées, collèges) is by no means so general as in Germany or Austria, but the numerous professional and special schools, which are usually very well organized, are largely frequented. All higher education is easy of attainment in France; while the handicraftsman is highly respected.

Among the valuable institutions of France are the University, with the colleges belonging to it all over the country, the Institute de France, the Collège de France, the rich scientific collections, the Jardin des Plantes, the Observatory, the National Library, etc., all in Paris, which is also the focus of the scientific life of the country.

Constitution.—France is at present a republic, at the head of which, as chief of the executive, is a President, elected for 7 years, and assisted by a responsible cabinet. The legislature consists of two chambers—the Chamber of Deputies (557 members) and the Senate (300 members).

For administrative purposes France is divided in 87 *Départements*, named after mountains, rivers, or other physical features. At the head of each is a *Préfet.* The departments are divided into *Arrondissements*, subdivided into *Cantons*, divided in their turn into *Communes.* At the head of the arrondissements are *Sous-préfets;* the heads of the cantons and communes are called *Maires.* Préfets and sous-préfets are appointed by government; maires are elected by the people.

MOUNTAIN SYSTEM.

The greater part of France is lowland or occupied by mountains of only moderate height, though the loftiest system of the Continent also touches upon it. The division betwixt the lower and the higher parts is comparatively distinct. The east of the country is, on the whole, mountainous; the west is level.

1. The crest line of the *Maritime Alps*, the *Cottian Alps*, and the *Graian Alps* forms, broadly speaking, the boundary between France and Italy. This range presents an abrupt and not easily-scaled face towards the basin of the Po, but in front of the side turned towards the Rhône valley, numerous extensive chains run from north to south and east to west. Among these are the Alps of Dauphiné, with summits upwards of 11,480 ft. in height. Mont Blanc (15,780 ft.), the loftiest mountain in Europe, is situated on French soil.

2. The *French-Swiss Jura* stretches northwards from the Alps, bounded by the Rhône, Saône, Doubs, and the Canal d'Alsace (with summits 5250 ft. in height).

3. The so-called *French Highlands* are separated from the Alps by the Rhône and Saône, and by the Canal du Midi and the Garonne from the Pyrenees. On the north-west it

descends in terraces to the plain. The mountain-masses of *Velay*, *Vivarais*, and *Gevaudan* send out the following spurs:—

(1) The Cevennes, rugged and difficult of access.

(2) The Marguerite Mountains and the barren plateau of Auvergne are divided from the Cevennes by the course of the Tarn. The plateau is dotted with scattered volcanic peaks such as the Cantal, and the Mont d'Or (6190 ft.), and it is adjoined by the fertile terraces of the Rovergue, Limousin, and Bourbonnais.

(3) The Forez Mountains stretch between the Allier and the Loire.

(4) The mountains of Lyonnais and Charolais lie between the Loire and the Rhône and Saône.

The Charolais is united with the *Côte d'Or* by a gentle undulation, traversed by the Canal du Centre, and the Côte d'Or is separated from the *Plateau de Langres* by the Canal de Bourgogne. To the north-east the Monts Faucilles run to the Vosges. The *Forest of Argonnes* stretches on the other side of the Meuse. Thence towards the west the surface becomes lower and lower; and gentle elevations or deep water-courses alone interrupt the monotony of the plains.

4. The *Mountains of Brittany and Normandy* rise in an isolated position; a little to the south of them lies the low granite plateau of *Gatine*.

5. France to the south of the Garonne and the Canal du Midi is occupied by the *Pyrenees*, which form a true ethnographical and political boundary, by virtue of their compactness and the height of their crest (8530 ft.). The French side of the Pyrenees is much less steep, much richer in both woods and pastures, in short much less wild than the Spanish side.

A great continuous plain stretches from the Nord throughout the whole west of France, traversed by the Seine, the Loire, and the Garonne, and extending as far south as the Pyrenees. The plain of the Rhône is the next in point of size, but it is very much smaller. It is continued westwards along the shore of the Mediterranean to the east end of the Pyrenees.

The soil is universally fertile and productive. The most favoured regions lie in the west, north-west, and north, and in the Rhône valley; but even the French Alpine districts are luxuriantly fertile, yielding apples, pears, etc., wine, and southern fruits. The most barren quarters are the heaths and the morasses, known as "Landes,"[1] on the south-west coast, and the stony plain on the lower Rhône (Crau).

SEAS, RIVERS, AND CANALS.

Seas.—The great extent of the French coast-line, washed partly by the Atlantic Ocean (962 miles) and partly by the Mediterranean Sea (300 miles), the two most important seas of the world, exercises the greatest influence on the development of the country.

France, however, is comparatively poor in natural harbours. Most of its havens are either entirely artificial or river-ports. The coast is generally flat, sandy, and inhospitable, so that it compares very unfavourably with the rocky shores of Great Britain with their abundant bays. Brittany and Provence, however, are more advantageously circumstanced in this respect than the rest of France.

Rivers.—France contains upwards of 150 navigable rivers, the improvement and development of which have claimed the most careful attention for centuries. Almost all rise near the centre of the country, whence they radiate in all directions to the boundaries, though most fall into the Atlantic Ocean. The depth of water in these streams is very variable; navigation, in the case of some rivers peculiarly exposed to the danger of being sanded up, is rendered possible only by means of enormous moles and other works.

The chief rivers are the following:—

The *Seine*, with its deep channel and gentle incline, is by far the best stream for navigation in France. Small sea-going craft can ascend as far as Rouen. On the right it receives the Marne and Oise; on the left the Yonne.

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[1] The Landes are caused by the fine alluvial deposits of the rivers of northern Spain, which are carried towards the French coast by the Rennel current, and are there cast on shore by the tide. Left exposed at low water, the fine particles are blown inland by the wind. Efforts have been made ever since last century to arrest the constant progress inland of the barren sand-dunes, by the planting of coniferous trees; and in this way much soil has been reclaimed for cultivation.

The navigation of the *Loire* is attended with considerable difficulty, especially in the neighbourhood of Orléans. The Mayenne, the Allier, and the Cher are its chief tributaries.

The *Charente* is easily navigated.

The *Garonne*, called the *Gironde* after its junction with the Dordogne, is not of much importance for shipping except at its mouth, which is deep enough for sea-going vessels.

The *Adour.*

The *Rhône*, with the Saône and its tributary the Doubs, is the deepest river in France, but it is also the most impetuous, so that it is of little value for navigation, in spite of costly attempts to control its course.

The *Meuse*, the *Somme*, and the *Moselle* are all navigable before they quit French soil.

Most of the above-mentioned rivers are distinguished by wide estuaries.

Canals.—No other country in Europe has done so much to improve the navigable qualities of both its larger and smaller streams as France; while numerous excellent and convenient *Canals* have existed in that country for centuries, connecting all the principal rivers, and so uniting the Atlantic and Mediterranean Seas. The most important canals are:—The *Canal du Midi* or *Canal de Languedoc*, joining the Garonne with the Mediterranean (the highest point of this canal is 590 ft. above the sea-level); the *Canal du Centre*, between the Saône and Loire; the *Canal de Bourgogne*, between the Yonne and the Saône, thus uniting the basins of the Seine and the Loire; part of the *Canal d'Alsace*, uniting the Rhône (Saône, Doubs) with the Rhine at Strassburg; the *Rhine-Marne Canal*, forming the link between the systems of the Rhine and Seine, and traversing the Vosges; the *Canal d'Orléans*, joining the Loire and Seine; the *Canal de Beaucaire*, running from the Rhône to the Mediterranean; the *Canal* from *Brest* to *Nantes* (230 miles). The Somme, Scheldt, Meuse, and Oise (Seine) are also united with each other by a network of canals, centring at St. Quentin.

CLIMATE.

France enjoys the most delightful climate in all Europe; only the actually mountainous districts have a severe climate. Elsewhere, even in the northern departments, the winters are mild, while even in the most southerly, the summers are not too hot. The climate of western and southern France is "oceanic," permitting palm-trees to flourish in the open air (mean temperature in Jan. of Marseilles 44·6° F., of Bordeaux 42·8° F.), while that of eastern France is more continental (mean temperature in Jan. of Nancy 33·8° F.). The annual mean temperature of southern France is 59° F., of central France 55·4° F., and of northern France 50° F., much higher than the temperature of similar latitudes as, *e.g.*, Germany. The *Rainfall* is large; on the Atlantic coast rain falls on 152 days per annum, in the centre on 140, and in the south on 60–70. In the south and west the maximum rainfall occurs in autumn, in the north-east in winter.

DIVISIONS AND CHIEF TOWNS.

In this list the old historical division into *Provinces* is maintained, though that was officially superseded in 1790. The populations are from the census of 1886.

1. *Isle de France.*—*Paris* (2,395,000 inhab., in 1800 only 550,000); Versailles (50,000 inhab.), Fontainebleau, Beauvais, St. Denis, Laon, Soissons-sur-l'Aisne, St. Quentin.

2. *Flanders* and *Hainault.*—*Lille* (188,000 inhab.), Tourcoing, Roubaix (80,000 inhab.), Douai, Cambrai, Dunkirk, Valenciennes.

3. *Artois.*—*Arras* (27,000 inhab.), Calais, Boulogne, St. Omer.

4. *Picardy.*—*Amiens* (80,000 inhab.), Abbeville.

5. *Normandy.* — *Rouen* (106,000 inhab.), Elbeuf, Dieppe. *Havre-de-Grâce* (Le Havre, 107,000 inhab.), Evreux, Louviers, Alençon, Caen (40,000 inhab.), Honfleur, *Cherbourg* (37,000 inhab.).

6. *Brittany.*—*Nantes* (127,000 inhab.), St. Nazaire, Rennes

(57,000 inhab.), St. Malo, Vannes. *Lorient* (40,000 inhab.), St. Brieux, Quimper, *Brest* (71,000 inhab.), La Roche-sur-Yon (Napoléon-Vendée).

7. *Orléanais.—Orléans* (60,000 inhab.), Blois, Chartres.

8. *Berry.—Bourges* (35,000 inhab.), Châteauroux.

9. *Nivernais.—Névers* (22,000 inhab.).

10. *Bourbonnais.—Moulins* (20,000 inhab.).

11. *Auvergne.—Clermont* (47,000 inhab.), Aurillac, Thiers.

12. *La Marche.*—Guéret, Aubusson.

13. *Limousin.—Limoges* (69,000 inhab.), *Tulle.*

14. *Saintonge* and *Angoumois.—Angoulême* (35,000 inhab.), Cognac.

15. *Aunis.—La Rochelle,* Rochefort (26,000 inhab.).

16. *Poitou.—Poitiers* (37,000 inhab.), Niort.

17. *Touraine.—Tours* (59,000 inhab.).

18. *Anjou.—Angers* (73,000 inhab.), Saumur.

19. *Maine.* — *Laval* (28,000 inhab.), Mayenne, Le Mans (58,000 inhab.).

20. *Périgord.—Périgueux* (25,000 inhab.), Bergerac.

21. *Guyenne.—Bordeaux* (240,000 inhab.), Libourne, Montauban, Agen, Cahors.

22. *Gascony.*—Auch, Bagnères, Barrège.

23. *Navarre* and *Béarn.*—Pau (28,000 inhab.), Bayonne, Biarritz.

24. *Languedoc.* — *Toulouse* (147,000 inhab.), Carcassonne, Narbonne; *Montpellier* (57,000 inhab.), Lunel; *Nîmes* (70,000 inhab.), Beaucaire, Alais, Annonay, Le Puy.

25. *Roussillon.*—Perpignan (25,000 inhab.).

26. *Foix.*—Foix-sur-l'Ariège.

27. *Provence.—Marseilles* (376,000 inhab.), *Aix,* Arles, *Toulon* (70,000 inhab.), Hyères. Iles d'Hyères.

28. *Vennaissin, Avignon,* and *Orange.*—Avignon (41,000 inhab.), Orange.

29. *Dauphiné.—Grenoble* (52,000 inhab.), Vienne, Valence, Briançon.

30. *Lyonnais.—Lyon* or *Lyons* (410,000 inhab.), *St. Etienne* (117,000 inhab.).

31. *Burgundy.* — *Dijon* (60,000 inhab.), Auxerre, Sens, Chalons-sur-Saône, Autun, Le Creuzot.

32. *Franche-Comté.*—*Besançon* (57,000 inhab.), Montbéliard, Dôle.

33. *Lorraine.*—*Nancy* (79,000 inhab.), Toul, Lunéville, St Dié, *Epinal.*

34. *Champagne.*—*Rheims* (97,000 inhab.), Sédan, Mezières, Châlons-sur-Marne, *Epernay,* Langres, Troyes.

35. *Savoy.*—*Chambéry, Annecy,* Valley of Chamounix.

36. *Nice.*—*Nice* (Nizza, 77,000 inhab.), Grasse, Cannes.

The principality of *Monaco* (8½ sq. m.; 10,000 inhab.), has entered into a customs union with France.

37. *Corsica.*—*Ajaccio* (14,000 inhab.), Bastia.

NATURAL PRODUCTIONS.

1. **Vegetable Kingdom.**—France is fundamentally an agricultural state. Its most important natural productions belong to the vegetable kingdom, and 52% of its inhabitants are engaged in husbandry. The climate enables France to combine the agricultural pursuits of the north and the south. Agriculture is also much encouraged by various important institutions, such as agricultural seminaries, exhibitions, agricultural societies, the Crédit Foncier, and the like.[1]

The chief crops are as follows:—

Cereals, which occupy 50°/₀ of all the cultivated land, flourish better in the north than the south. The annual harvest amounts to about 85,000,000 qrs. (of which 35,700,000 qrs. are wheat), but hardly meets the requirements of the country, with its numerous cities.

Potatoes and *Beetroot* are grown in the northern departments. About 39,200 tons of the latter are annually produced.

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[1] The points gained by the French Revolution of 1789—abolition of all feudal burdens, unrestricted freedom of emigration, and the divisibility of landed estates—produced a most beneficial effect upon all branches of husbandry. The parcelling out of the land especially facilitated the most thorough working and exploiting of the soil. The number of persons directly dependent upon tilling the ground is estimated at 20,000,000; of whom 9,000,000 are proprietors of land, 4–5,000,000 tenants, and 5–6,000,000 labourers. In England only 1 in 62 persons dependent upon agriculture is a proprietor, whereas in France the proportion is 2 to 1.

Flax (1,000,000 cwts.), of excellent quality, flourishes in Flanders, Normandy, Brittany, Gascony, Anjou, Maine, etc.; *Hemp* in Picardy, Champagne, Dauphiné, and Burgundy.

Madder grows in the Rhône valley, especially in the neighbourhood of Avignon; *Saffron* on the Loire; *Woad* in Normandy and Languedoc.

Hops (3000 tons) flourish best in Picardy and Burgundy.

The cultivation of *Tobacco*, a government monopoly, is permitted only in 22 departments on the Garonne, Rhône, and the north.

Sea-wrack is collected near Cherbourg.

Although most of the above-mentioned crops are wholly consumed in the country, and though the grain-crop indeed is usually insufficient, France yields other vegetable products in such rich profusion that large quantities are exported. Among these are *Wine*,[1] *Apples*, *Pears*, and similar fruit, and *Southern Fruits*.

France produces more wine than any other country in the world. Nearly 5% of its total area (6,175,000 acres) is covered with vineyards, and 2,000,000 persons are engaged in the production of wine. All the departments, with the exception of nine in the extreme north and north-west, produce wine. The boundary line between the wine-producing districts and the others runs from the mouth of the Loire, *viâ* Paris, to the Meuse. Owing to the careful cultivation of the vines and the equally intelligent treatment of the manufactured product, the wines of France are the best in the world. The annual yield is between 660,000,000 and 880,000,000 gallons, valued at £60,000,000. About one-third is exported.

The best and most prized growths are those of *Champagne*, on the banks of the Marne (Epernay, Sillery, Ai, Rheims); *Burgundy*, on the Côte d'Or (Romanée, Clos Vaugeot, Chambertin, Nuits, Volnay); *Gascony* and the *Gironde* (claret); *Bordeaux*, the wines known by the name of "Entre deux mers," in the valley of the Loire and in Languedoc (Muscat Lunel).

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[1] The French vineyards have in recent years suffered much from the ravages of the phylloxera.

Other sorts are made in Roussillon, near Orléans, in Provence, in the central departments generally, which are remarkable for the quantity they produce, and in Corsica.

Three-fourths of the wines of France are red.

The cultivation of *Fruits* is brought to a pitch of perfection in France, probably unequalled in any country in the world. It reaches its zenith in the neighbourhood of Paris. In respect of quantity also France is probably unrivalled. Much of the fruit is preserved.

Apples, *Pears*, *Cherries*, from the first of which large quantities of *Cider* are brewed, flourish in the greatest profusion in the northern departments. In the centre and towards the south peaches, apricots, *walnuts*, almonds, *chestnuts*, and figs are produced.

Olives grow as far north as the 45th parallel. The best grow at Aix in Provence and near Grasse.

Oranges and *Lemons* flourish in Corsica, the Iles d'Hyères, and near Toulon and Nice; *Capers* near Marseilles; *Truffles* (4,400,000 lbs.) in Provence; *Mustard* near Dijon.

The *Mulberry-tree* is universal in the southern half of France.

Vegetables, especially *Beans*, *Artichokes*, *Cauliflower*, *Turnips*, *Asparagus*, etc., are grown in great abundance and excellence in the northern departments.

Floriculture has also attained a high level of excellence. Honfleur alone sends 800,000 rose-cuttings yearly to the Parisian markets.

About 14% of the whole area of France is occupied by grass-lands.

The *Woods* in the interior have been largely cut down. In spite of the most extensive afforestation carried on for the last 30 years, France now possesses not more than a third of the growing timber it contained a century ago. About 16% of the total area is under forest, so that France belongs to the less richly-wooded countries of Europe. The most extensive forests are found among the Alps, Pyrenees, and Ardennes, and in Burgundy and Orléanais. In the north *Oaks* predominate, in the centre coniferous trees, besides maples, ashes, poplars, etc. *Chestnuts*,[1] *Cork-trees*, and *Olive-trees* are the most valuable trees in the south.

The Landes and the Gironde produce *Vegetable Gums* (turpentine, turpentine-oil, colophony or rosin, etc.), which are exported to an annual value of about £1,200,000.

Only 6°/₀ of the entire area is unproductive.

2. **Animal Kingdom.**—In spite of all attempts to encourage stock-farming in France, that country is still somewhat backward in this department, and still dependent upon other countries for supplies.

The *Horned Cattle* (12,000,000 head) raised in the country are not sufficient to meet the home demand. The best fat cattle are bred in Normandy (where the breed has been improved by crossing with Durham cows and other English strains), Flanders, and Brittany. The best dairy-cows are found in the northern and western departments, among the Alps, and in Auvergne, where also the celebrated French cheeses are chiefly produced. The south is the worst off for cattle, and rears mainly draught-animals.

Horses.—Much has been done of late years to improve the breed and increase the supply of French horses, by the introduction of English and Arabian stallions, the offering of premiums, etc. But the present supply of about 3,000,000 horses is still not quite equal to the demand. The best breeds are the Percheron, and those of Flanders, Normandy, Brittany, and Limousin. The ordinary farm or country horse is only mediocre in quality.

Mules (1,000,000), of great size and strength, are reared in Gascony, Poitou, and the west. *Asses* (also about 1,000,000 in number) are very generally used for light draught-work.

The *Sheep-farming* also fails to keep pace with the native demand. About one-half of the 23,500,000 sheep in France are said to have been improved by crossing with the merino breed. The chief sheep-breeding establishment is situated at Rambouillet, near Versailles. The finest wool comes from Isle de France, Champagne, Normandy, Provence, and Burgundy.

[1] The chestnut woods are estimated to cover about 1,400,000 acres.

About 600,000 cwts. of fine wool and rather more of a coarser variety are annually produced.

In Dauphiné and Provence there exist wandering flocks of sheep, like those of Spain, but they do not enjoy the privileges of the Spanish sheep. The best fat sheep are brought from Auvergne and Normandy.

Goats (1,600,000) are found in all the mountain-districts, where their milk is largely used for the manufacture of cheese. Successful attempts have recently been made to acclimatize Angora and Cashmere goats in the southern departments.

The rearing of *Pigs* (5,700,000) does not attract any special attention in France.

Poultry-farming is a highly important and steadily progressive branch of industry in France, which possesses several very excellent breeds of fowls. Though fowls are bred also for killing, their chief value consists in their eggs, which are exported in large numbers, especially to England. The annual value of this export-trade is over £1,000,000. Feathers are also exported in large quantities.

Rabbits are profitably bred all over the country.

Silk-worm breeding is very widely extended in the southern departments and in Corsica. The average annual produce of raw silk is about 1,100,000 lbs., but hardly amounts to a quarter of the demand.

The *Sea-fisheries* have been much improved by the assistance of government, and now form a considerable source of national wealth. About 80,000 men, with nearly 20,000 boats, of a total burden of more than 100,000 tons, are engaged in this industry, which represents an annual value of between £3,000,000 and £4,000,000. Mackerel and tunnies are caught off the coasts of Brittany and Corsica; sardines off Rochelle, Rochefort, and Nantes.[1] Dieppe and Boulogne send out boats to the herring-fishery off the coasts of Scotland, and to the cod-fishing on the banks of Newfoundland. Havre is the chief French whaling-port.

Oysters, largely bred in oyster-parks (at Arcachon, Varennes,

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[1] In 1882, 513,000,000 sardines and 155,000,000 oysters were caught on the French coast.

Cancale), represent an annual value of between £600,000 and £800,000.

The river-fisheries have been considerably developed by the artificial fish-breeding establishments, and now yield large quantities of carp, sturgeon, salmon, etc.

3. **Mineral Kingdom.**—France, richly endowed by nature with minerals, occupies the third place among the mineral-producing states of Europe. Its chief wealth consists in its *Coal* and *Iron*.

Although in recent years an annual output of 25,000,000 tons of *Coal* has been reached, France is still dependent to a certain extent upon importation, chiefly from Belgium, which supplies about one-fourth of the whole demand. The chief *Coal-fields* in France are those of the *Loire* (in the neighbourhood of St. Etienne), the *Nord* (near Valenciennes, a continuation of the Belgian deposits), and *Creuzot-Blanzy*.

France produces more *Iron* than any other European country except Britain and Germany. There are iron-mines in 58 departments. The smelting-works turn out annually about 2,000,000 tons of pig iron, which, however, does not fully meet the consumption. Ore of a better quality for manufacture into steel is imported from Elba, Spain, and Algiers.

The principal iron-deposits are situated in Lorraine, Burgundy, the Jura, Berry, Champagne, Brittany, Central France, the basin of the Cher, Savoy, and in the Pyrenees. The development of the French iron-industry is hampered by the fact that the iron-mines are often at great distances from coal. Wherever these minerals are found together extensive smelting-works and foundries have sprung up, as at St. Etienne, Creuzot, etc.

The other metals are found in but small quantities, so that their import is far in excess of their export. Lead (20,000 tons), copper (3600 tons), and zinc are the most abundant.

Salt is now wholly obtained from the sea, as the former chief French salt-mines and saline springs are situated in that part of Lorraine which was ceded to Germany. The sea-salt is obtained in the so-called "Marais Salantes," on the south and west coasts, the chief being near the mouths of the Loire and the Charente. The annual yield is about 700,000 tons.

Soda is obtained by burning sea-weed, on the coast of *Brittany* and *Normandy;* and *Iodine*, of excellent quality, is obtained in a similar manner at Cherbourg.

Among the other noteworthy minerals of France are the excellent *Granite* of Brittany and Normandy; the *Asphalt* of Aix; the *Porcelain-clay* of Limousin (Limoges); the *Chalk* of Champagne; the *Slates* of the Ardennes and Cevennes; the *Flint* from the banks of the Cher; the *Millstones* of Montmirail and La Ferté-sous-Jouarre; the *Marble* of the Alps, Pyrenees, and Corsica; and the *Building-stone* of the neighbourhood of Paris.

Mineral Springs abound among the Pyrenees (Bagnères de Luchon; Barège). The waters of Aix in Provence, Vichy on the Allier, and Plombières in Lorraine, are also well known.

Biarritz near Bayonne, Etretat near Havre, Trouville, Nice, Dieppe, etc., are favourite *Sea-bathing Resorts.*

MANUFACTURES.

After Great Britain and the United States France is the chief manufacturing country of the globe. In some points, as, *e.g.*, in taste and form, it excels both these countries. The manufacturing industry of France is indebted for this lofty position to the great natural wealth of the country, the splendid means of communication, the inventive genius of the people both in technical and æsthetic matters, the energetic assistance of the government, and the abundance of capital. It is fostered also by 75 chambers of commerce and by commercial tribunals, besides numerous mercantile associations and excellent technical and trade schools.

Art and industry are united in France in a manner unparalleled elsewhere. The sense of beauty, which is innate in the French as a nation, is encouraged and cultivated by institutions like the "Ecole Centrale des Arts et de Manufactures," and the "Conservatoire des Arts et Métiers," and by schools of design, exhibitions, premiums, etc. For centuries the French have held an undisputed position as the "glass of fashion and the mould of form" for all other nations.

According to the latest returns 9,300,000 persons are engaged in industrial occupations. These industries and husbandry are the two great sources of the prosperity of France. The annual produce of the latter is estimated at £480,000,000, of the former at £600,000,000.

The great majority of the French industrial establishments are found in the north, although they are numerous in the south as well.

The *Central Point* of the entire manufacturing industry of France is Paris and its environs.

Textile Industries.—The most important branch of the French manufacturing industry is the *Textile Industries*, which employ more than 600,000 persons, and produce goods to the annual value of £140,000,000.

1. The *Silk Manufacture* of France is the leading industrial interest in the country; its productions excel in quality and taste those of all other lands, and it controls the silk-markets of the world. Silk to the annual value of £60,000,000 is manufactured in France, from between 8,000,000 and 10,000,000 lbs. of raw silk. American competition has, however, produced a sensible decline in the prosperity of this manufacture within the last few years.

The chief seats of the silk-trade are in the south. The departments of *Ardèche*, Isère, Gard, and Vaucluse contain the largest proportion of silk-winding and silk-spinning establishments. The centre of the silk-weaving industry is *Lyons*, which is also the most important silk-market in Europe. This town, which with its environs contains 44,000 looms, produced goods in 1883 to the value of about £16,000,000. Lyons and nearly all the other towns on the Lower Rhône produce silk-goods; *Velvet* and *Velveteen* are made at Lyons, Paris, and Tours; *Silk ribands* at St. Etienne; *Silk stockings* ("tricots") at Paris and Lyons. Paris, Lyons, and Grenoble contain *Silk-dyeing* works.

2. The *Woollen Manufacture*, the oldest manufacturo in France, produces annually goods to the value of £48,000,000, of which a third is exported.

The largest wool-spinning factories (3,000,000 spindles) are at Lille, Roubaix, Tourcoing, Rheims, Amiens, and Paris.

Cloth is made at *Sedan* (black cloth), Elbeuf, and Louviers. Coarser varieties are produced in the south (Toulouse and throughout Languedoc); worsted yarn fabrics in Roubaix, Tourcoing, Lille, Rheims, and Rouen; ladies' apparel at Paris.

Beautiful *Carpets* are woven in the Savonnerie at Paris, and Aubusson, Amiens, Tours, Beauvais, and Rouen. *Tapestry* (gobelins) is made at Paris and Beauvais.

Half-woollen Goods (flannel, alpaca, woollen-velvet), in no degree inferior to English manufactures, are made at Rheims, Amiens, and Roubaix.

France is unexcelled for merino, tibets, muslins, alpaca, mohair, barège, and ladies' dress goods.

3. The French *Cotton Industry* employs 5,000,000 spindles for fine work, and 112,000 power-looms.

The chief seat is in the north, especially at Rouen, where coarser and cheaper varieties are produced. Lille, Valenciennes (lace), Roubaix, St. Quentin, Calais (tulle), and Senones are also engaged in this manufacture. For calico-printing and dyeing France is unrivalled. Tarare, near Lyons, is noted for its tarletan. The products of the French factories are sufficient to meet the home demand, and also to maintain an export trade.

4. The French *Linen Manufacture*, one of the oldest industries in the country, is steadily growing in importance. Linen factories are found in all parts of France, but the chief centres are situated in the north, in *Normandy*, *Picardy*, *Flanders*, and *Brittany*. About 740,000 spindles, 40,000 hand-looms, and 19,000 power-looms are engaged in this industry, which produces goods to an annual value of £12,000,000.

The manufacture of *Jute* has recently been largely developed at Dunkirk.

Sailcloth and *Cordage* are produced at Dunkirk, Havre, Angers, Brest, Cherbourg, Toulon, Marseilles, and other places on the coast.

No other country except Belgium can compete with France in the manufacture of *Lace*, *Tulle*, *Trimmings*, etc. About 250,000 women are employed in the production of these goods in France, which represent an annual value of from £2,400,000 to £2,800,000. The chief seats of the industry are *Alençon*, *Valenciennes* ("Valenciennes lace" is the name given to Flemish lace generally), Bailleul, Arras, Calais, Bayeux, Caen, etc.

The manufacture of apparel, underclothing, drapery, etc., employs at least 2,000,000 hands, whose annual production is valued at from £24,000,000 to £32,000,000. The value of apparel made annually in Paris, which sets the fashion, is computed at £16,000,000.

Metal Industries.—The French *Metal Industries* are not so highly developed as those of Great Britain or Germany, but they are sufficiently advanced to carry on a considerable competition even with these countries. France is particularly strong in those manufactures in which elegance or tastefulness of shape is of importance.

Heavy and coarse *Iron* and other *Metal Goods* are produced at *St. Etienne* (fostered by the neighbouring coal-measures), *Creuzot*, Lyons, *Paris*, Rouen, and Nevers.

Cutlery, in which France rivals England, is made at Nogent, Thiers (Auvergne), Chatellerault (Vienne), and Nontron (Dordogne).

The *Surgical Instruments* of Paris and Caen are among the best in the world.

Factories for the manufacture of *Machinery* of all kinds, some of which enjoy a world-wide reputation, are found at *Paris*, *Creuzot*, Louviers, St. Etienne, Oullins (Rhône), Indret (near Nantes), Lille, Havre, and Marseilles.

Extensive *Weapon-factories* are situated at *Paris*, Passy, St. Etienne, Bourges, etc.

Paris is famous for its artistic *Bronze-wares* and *Lamps;* and Parisian *Gold* and *Silver Plate* and *Jewelry* serve as patterns for all the large towns of Europe.

The *Watch-making* industry in France has within recent times so largely developed as to offer serious competition to the Swiss makers. *Besançon* (school of watch-making), the Jura, Savoy, and Paris are the principal watch-producing centres.

Philosophical, *Mathematical*, and *Astronomical Instruments* are made at Paris; musical instruments also at Paris and a few places in Normandy.

In the manufacture of *Glass*, France devotes itself more to the production of the finer qualities, distinguished for great purity and for elegance of shape, than to the production of the cheaper ordinary kinds. The industry centres in Paris and the northern departments. *Mirrors* are made at *St. Gobin* and Chauny (Aisne), and at Montluçon (Allier); *Crystal* at Paris and Baccarat.

Sèvres (with its richly subsidized government factory) produces the most artistically finished *Porcelain* in Europe. Vierzon and Limoges also contain porcelain-factories. *Fayence* is made at Rouen, Paris, Lyons, Tours, Bordeaux, and Choisy.

Chemical Industries.—France is distinguished for the excellence and abundance of its *Chemical Manufactures.* The chief seats of the industry are Chauny (Aisne), Lille (white lead); Lyons and Paris (all kinds of chemicals); Cherbourg (iodine); Rouen (soda); Montpellier (verdigris, vitriol, nitric acid); and Lyons (phosphorus and ultramarine).

Perfumery, *Volatile Oils*, and *Essences* of unrivalled delicacy are made in Paris, Provins, Grasse, Cannes, and Nice. Large quantities are exported.

Candles, which are moulded in Paris, Marseilles, Lyons, Montpellier, etc., are also exported.

Soap is made most extensively at Lyons (£2,000,000).

The southern departments (Marseilles) produce *Olive-oil;* the northern departments *Linseed-oil* and *Rapeseed-oil.* Oil-seeds to the value of £6,000,000 are annually imported for this industry.

Beetroot Sugar (400,000 tons) is manufactured in 515 factories, most of which are in the northern departments (Lille, Amiens, Rouen, Nantes, Orléans, Bordeaux). Their production has much reduced the consumption of colonial sugar, for which however, there are refineries in Paris, Bordeaux, Marseilles, Havre, etc.

The *Tobacco Manufacture*, which is a government monopoly, is carried on in 19 large factories, which together produce an annual gross value of £12,000,000.

Brewing has of late years, and especially in the north, received a considerable impulse from the steadily increasing consumption of beer in France (158,400,000 gals.). French *Brandy* and *Liqueurs* are famous all the world over, under the names of Cognac, Anisette (Bordeaux), Absinthe (Pontarlier), and Chartreuse (Grenoble), the last a very favourite beverage in France itself.

Other Leading Industries.—*Paper-making* is carried on in France on a scale equalled in few other countries; and the produce of its 527 paper-mills, which turn out paper of a high class, is worthy to rank beside the goods made in England or America.[1] The largest mills are situated at Annonay, Limoges, Lille, Angoulême, and Grenoble.

Wall-papers are made chiefly at Paris.

In the manufacture of *Leather* and *Leather Goods* the French have particularly distinguished themselves. In certain branches, such as japanned leather, morocco goods, and gloves, the French manufactures control the markets. The chief leather-making towns are *Paris*, *Blois*, *Annonay* (tawed leather), Marseilles, *Choisy* (morocco-leather), and *Pont Audemer* (japanned leather).

Saddlery and *Fancy Leather Goods* of all kinds are exported from Paris.

Shoes are manufactured in wholesale factories at Paris, Marseilles, Toulouse, Bordeaux, and Limoges, and often attain great elegance. The total annual value is from £20,000,000 to £24,000,000.

Gloves are made on the most extensive scale in *Paris*, *Grenoble*, and *Niort*, but also at Rennes, Choisy, etc. The three first-named towns produce gloves to an annual value of nearly £1,640,000 (Paris £800,000, Grenoble £400,000).

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[1] Many important improvements in the manufacture of paper owe their origin to the French makers.

Some of the finer sorts of *Provisions* produced in France are the objects of a considerable trade. The fine *Cheese* known as Fromage de Brie is made in the departments on the Seine; Neufchâtel and St. Gervais (Blois) are also noted for cheese. The *Confectionery* and *Pastry* of *Paris*, Rouen, Clermont, Orléans, etc., are quite unequalled of their kind.

Paris supplies tasteful *Wooden-work* of all kinds, especially inlaid-work and artistic cabinet-making. Elegant *Baskets* are annually woven in France to the value of £800,000.

Fancy Articles and *Knick-knacks* of all kinds, *Millinery*, and *Ornaments* are manufactured in Paris to an extent and of a quality equalled in no other city in the world. In these matters the French capital sets the fashion not only for France but for the entire globe. *Lyons*, Montpellier, Marseilles, and Rouen also produce similar goods.

Ship-building has been brought to great perfection in France, nearly all the larger seaports sharing in the industry. Nantes, St. Nazaire, Havre, Marseilles, and Toulon contain, however, the most important yards.

The total annual value of the manufactures of France is estimated at £600,000,000, of which nearly one-fourth is contributed by Paris and its environs. Of late years a decrease, or at least an absence of increase, in the amount of the French manufactures has made itself apparent, and that is be explained by the advance which other nations have made in the artistic industries, enabling them not only to dispense with the assistance of the French, but even to compete with them to a certain extent.

TRADE AND COMMERCE.

The extensive commerce which corresponds with the extensive production of France is powerfully supported by the advantageous position of that country, and by its favourable physical peculiarities. For centuries the French have used all means to develop these favourable conditions to their fullest extent, and the greatest national sacrifices have been made even in our own times to maintain France in the position of the second mercantile power in Europe.

I. Domestic Trade.—The domestic trade of France is much facilitated by numerous navigable rivers and canals, an extensive system of roads, railways, and telegraphs, and an excellently organized postal service connecting all the important towns with Paris, the seaports, and the neighbouring countries.

France contains 8000 miles of navigable water-ways, of which 3000 miles are provided by *Canals.*

In 1892 there were 22,700 miles of *Railways.* The French railway-system is the most intelligently organized and centralized in Europe. The main lines radiate from Paris to the borders and to the principal seaports, while they are connected with each other by numerous concentric circles of lines, so that the system has been not inaptly compared to a huge spider's web.[1] Most of the French railways are in private hands, though rigidly controlled by the government. The competition of the river, canal, and coasting traffic prevents the tariffs from becoming unduly high.

The principal railways are the property of six large and wealthy companies.

1. *Chemin de Fer de l'Est.*—From Paris to Strassburg, and from Paris to Bâle, with connecting branches to the railways of the Palatinate, to Saarbrück, and Luxembourg.

2. *Chemin de Fer du Nord.*—From Paris to Lille and Valenciennes; from Paris to Amiens and Boulogne; from Paris to St. Quentin, and Maubeuge; and from Paris to Soissons and the Belgian frontier.

3. *Chemin de Fer de Paris-Lyon-Méditerranée.*—From Paris to Marseilles *viâ* Dijon, Lyons, Avignon, and Tarascon, with branches from Marseilles to Toulon and to Nice, and from Tarascon to Nimes, Montpellier, and Cette; from Paris to Montargis, Nevers, Moulins, St. Etienne, and Givors.

4. *Chemin de Fer d'Orléans.*—From Paris to Toulouse, *viâ* Orléans, Limoges, and Figeac; from Paris to Bordeaux *viâ*

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[1] Apart from a few tentative experiments, the French railways were begun in 1842.

Orléans, Tours, Poitiers, Angoulême, and Coutras, with branches from Tours to St. Nazaire, and from Nantes to Brest and to La Rochelle, etc.

5. *Chemin de Fer de l'Ouest.*—From Paris to St. Malo and Brest *viâ* Rennes; from Paris to Cherbourg, to Havre, and to Dieppe.

6. *Chemin de Fer du Midi.*—From Bordeaux to Bayonne; from Bordeaux to Cette, *viâ* Toulouse and Narbonne, with numerous branches.

Besides these principal lines there are upwards of 1200 miles of local, branch, and industrial railways in the hands of smaller companies. Government also owns some of the railways (*Réseau de l'Etat*).

The chief railway centres are Paris, Rheims, Lille, Calais, Lyons, Nevers, Orléans, Tours, Bordeaux, Toulouse, Marseilles, and Chambery.

The already excellent system of *Roads* has been still more perfected within the last few years.

The French *Telegraph System* is very complete. It possesses 54,700 miles of telegraph-lines, with 178,300 miles of wire, and 9832 stations, by which 40,650,000 messages were transmitted in 1891. Submarine cables stretch from Calais, Boulogne, Dieppe, and Cherbourg to England; from Toulon to Corsica, to Spain, and Algiers; and from Brest to St. Pierre (near Newfoundland) and Boston.

The *Post-office* is well organized; but there is no state passenger post, as there is in Germany.

Most of the correspondence between Great Britain and the Continent and between the Continent and America passes through France or Belgium. In 1891 the 7450 post-offices of France transmitted 1,865,000,000 postal communications.

The chief centres of the domestic trade are Paris, Orléans, Tours, Nîmes, Lyons, Toulouse, Bordeaux, Dijon, Cette, Rheims, Epernay, etc., besides most of the seaports, for a considerable proportion of this trade is carried on by coasting-vessels.

II. Foreign Trade.—The foreign trade of France is very extensive, both by land and sea, but the maritime (66°/$_0$ of the whole) is much more important than the overland trade.

Well-made *Roads* unite France with Italy and Spain. Alpine passes to the former cross Mont Cenis, Mont Genèvre, the Col di Tenda, and *viâ* Corniche (from Nice to Genoa). But these roads have been deprived of much of their importance by the railways from Lyons to Turin (since the piercing of Mont Cenis by a tunnel 9¼ miles long), and from Nice to Genoa.

The French portions of the numerous roads over the Pyrenees are generally maintained in excellent order; but the greater part of the French-Spanish traffic is conveyed by the railways between Bayonne and Vittoria *viâ* Irun, and between Perpignan and Barcelona *viâ* Port-Bou.

The chief emporia of the overland foreign trade are *Lille* (North European trade), *Lyons* (Swiss and Italian trade), and *Toulouse* and *Bayonne* (Spanish trade). Nancy monopolizes an important share of the considerable trade with Germany.

All these towns are conveniently united with the adjoining countries by means of railways, water-ways, and roads.

The centres of the maritime trade are as follows:—

1. *On the Atlantic Ocean.*

Dunkirk, on the North Sea, is the principal harbour for the French trade with the countries bordering on that sea and the Baltic. It is also one of the most important fishing-stations. It exports chiefly farm-produce.

Havre de Grâce is the principal port for the trade with Northern Europe and America.—It is annually visited by 12,000 ships, of 3,000,000 tons burden, though its harbour (the second largest in France), originally constructed in the reign of Francis I., is somewhat difficult of approach. The chief imports are cotton,[1] wool, coffee and other colonial produce, wood, indigo, wheat, coal, iron, hides, and tobacco. As the port for Paris Havre is the principal export-harbour for the produce of the busy industrial departments of Northern France. It is also an important emigration harbour.

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[1] Havre is the chief cotton-market in France.

Nantes, with its foreport St. Nazaire, on the Loire, carries on an active trade with Africa, America, and Spain. Both import sugar, coffee, ground-nuts, grain, flour, iron, coal, timber, hides, and colonial produce; and export chiefly grain and French manufactures.

Bordeaux, on the Garonne, with the third largest harbour in France, is annually visited by 3–4000 vessels, of 2,000,000 tons burden, and carries on a large shipping trade with America, Africa, India, and the French Colonies. The principal imports are colonial produce, sugar, coffee, spices, dye-stuffs, india-rubber, rice, wool, and hides. Bordeaux is the chief emporium in France for Spanish produce (wine, grapes, figs, cork), india-rubber from Senegal, and oil-fruits; but its importance is mainly due to its extensive *Wine-trade*. It also exports glass and porcelain, woven fabrics, and other manufactures.

2. *On the Mediterranean.*

Cette, on the Canal du Midi, is an important harbour for wine, salt, Russian grain, American wool, timber, barrels (200,000 per annum), stock-fish, etc. It is visited annually by about 4000 vessels, of 600,000 tons burden.

Marseilles, one of the most ancient seaports and commercial towns of Europe, is the leading harbour in France, the principal emporium of commerce with the lands on the Mediterranean Sea, India, West Africa, and even the Pacific Ocean, and the chief depot for the transit-trade between North and South Europe. Marseilles is also one of the most important markets in Europe for grain, oil, sugar, coffee, india-rubber, and silk. Business to the value of about £60,000,000 is annually transacted here. About 18,000 ships, with an aggregate burden of 3,500,000 tons, are estimated to visit Marseilles annually.[1]

Among the less important harbours are *Calais*, *Dieppe*, and *Boulogne* (for traffic with England); *Rouen* (timber); *Granville* (export of cattle to England); *Bayonne* and *Nice* (large trade with Spain, Italy, Algiers). The naval ports are *Brest*, *Rochefort*, *Cherbourg* (the strongest naval harbour in France, and a marvel of maritime engineering), and *Toulon* (with a large naval arsenal and dockyard).

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[1] Marseilles has suffered considerably in its commerce through the opening of the St. Gotthard railway.

In 1892 the French *Mercantile Fleet* embraced 15,047 vessels, with an aggregate burden of 948,079 tons, of which 1157 were steamships. The *Navy*, now being reorganized, consisted in the same year of 393 vessels, 50 of which were iron-clads.

In 1891 the seaports of France collectively were entered by 28,724 sea-going vessels (of which 8659 were French), of 14,900,000 tons, and cleared by 21,523 vessels (8040 French), of 10,000,000 tons.

Paris is the central point of the whole commercial relations of France, both domestic and foreign. At once the focus of the intellectual life of France and the centre of its manufacturing industry, Paris is also the principal emporium of French commerce, in a completer sense than London is of English commerce. Commercial relations with all quarters of the globe converge in the offices and warehouses of Paris, which is also one of the leading money-markets of the world, resembling London in the number and value of its international transactions. Its Bourse or exchange is one of the most influential in the world. Nearly all French joint-stock commercial companies have their headquarters in Paris. Such companies are steadily increasing in size and importance, owing both to the expansion of trade and manufactures, and to the powerful support of government.

The leading *Mercantile Companies* are as follows:—

1. *Railway Companies.*
2. *Marine Transport Companies.*[1]
3. *Dock Companies* and *Bonded Warehouses*,[2] in Paris and most of the seaports, for the reception and transmission of imported goods.
4. *Insurance Companies;* fire and marine insurance; life assurance.
5. *Financial Institutions*, all with their headquarters at Paris,

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[1] See Appendix. The four leading steamship companies maintain the foreign mail service, for which they receive subsidies from government. There are besides several *sailing-ship companies* also noted in the Appendix.

[2] The wine depots of Paris accommodate 22,000,000 gallons.

represent one of the most important monetary influences in the world. The *Bank of France* (founded in 1803) possesses a monopoly of the right to issue bank-notes. In 1883 notes to the amount of about 900,000,0000 francs (£36,000,000) were in circulation. Other financial institutions are the *Crédit Foncier* (founded in 1852 to lend money on landed property), the *Crédit Mobilier*, the *Crédit Agricole*, and numerous savings-banks and benevolent societies.

6. *Exchanges.*—The chief is the *Bourse* of Paris, which at one time exercised the fiscal control of the world. Others of importance are at Havre, Marseilles, Bordeaux, Nantes, Lyons, Cette, Rheims, etc.

The total amount of money circulating in France is estimated at 8,000,000,000 francs (£320,000,000).

The development of the larger industries is much encouraged by the abundance of *Joint-stock Companies*, by means of which the savings of the nation are introduced to the sphere of trade and manufactures, and thus rendered useful for the well-being and prosperity of the country.

The commercial development of France is also promoted by *Commercial Treaties* (generally to the advantage of France) with nearly all the more important countries in the world, while consuls at all the chief centres of trade protect French interests.

The *Customs* have recently been thoroughly revised and altered, to the great advantage of French industries. They rest upon a moderate system of protection.

III. **Imports and Exports.**—The great bulk of the *Imports* consists of raw produce; the importation of manufactured articles has somewhat increased only in recent years.

The chief *Imports* are:—*Horses*, *fat cattle* (Paris alone consumes 193,000,000 lbs. of butcher-meat, besides pork), *raw silk*, wool, cochineal, hides, skins, furs, feathers; *cotton*, grain, flour, flax, hemp, wine; *timber* (fine cabinetmaker's wood from America, building-timber from Russia and Austria-Hungary), dye-woods; colonial produce, oil, indigo, *tobacco*, oil-seeds, wood-ashes and potash; metals (gold, silver, copper, zinc, iron, etc.), coal, sulphur, and saltpetre.

The principal manufactures imported are white soft goods from England, Belgium, and the German Customs Union; chemicals from the same sources; metal goods from England, Belgium, the Customs Union, and Switzerland; machinery from England, Belgium, and the United States; silk goods from Prussia, etc.

The total value of imports destined for inland consumption was in 1891 £196,800,000, besides £21,500,000 of precious metals.

The following countries contributed most of the imports in 1890:—England (£25,100,000), Belgium (£20,000,000), Germany (£14,000,000), Italy, Spain, Russia, Switzerland, Austria-Hungary, Turkey; the United States (£12,700,000); Argentine Republic, Brazil; India, China, Japan, Algeria, and Egypt.

The chief *Exports* are:—*Fat cattle*, mules, butcher-meat, butter, cheese, *eggs*, *tallow*, *leather*, *wool*, hair, *silk*, salt fish, *wines* and spirits (chiefly to Switzerland, England, Germany, Russia, and America); grain, fruit, southern fruits, oil, hemp, flax, saffron, madder, sea-salt; *silk* and *woollen goods*, linen and white soft goods, lace, carpets, *trimmings*, *apparel*, *woven fabrics*, and cordage (for nearly £40,000,000), spun fabrics (£12,240,000), *paper;* fine leather goods, (pocket-books, fancy articles, etc.), cabinet-work, glass, mirrors, porcelain, metal-work of all kinds (especially machinery, weapons, and hardware, £5,640,000), gold and silver plate, jewelry, watches and clocks (£6,000,000); chemicals, dyes, perfumes; millinery, trinkets, and fancy goods of all kinds (articles de Paris).

In 1891 the total value of French goods exported was £142,400,000 (besides precious metals), the value of manufactured goods being £77,000,000.

The largest proportions of the exports were sent to the following countries:—Great Britain (£40,000,000), Belgium (£20,000,000), Germany (£14,600,000), Switzerland, Italy, Spain, Turkey, Russia, Austria-Hungary; United States (£11,000,000); Argentine Republic, Brazil; Algeria and Egypt. The direct export to Eastern Asia is very small.

The steady improvement in the means of communication is accompanied by a constant increase in the *Transit-trade.* This branch of commerce, which in 1890 represented a value of £22,000,000, deals principally with colonial produce, cotton, woollen, and silk goods, clocks, etc. The principal lines of postal communication between England and America and the Customs Union, Switzerland, and Italy, traverse France.

FOREIGN POSSESSIONS OF FRANCE.

The French colonies and feudatory states embrace an area of 885,000 square miles, with a population of 28,000,000.[1]

For the most part these colonies are commercial or military possessions. French agricultural colonies are few in number. In nearly all the French foreign possessions the climate is unhealthy for Europeans. Though the often-quoted saying "the French cannot colonize" is by no means true, it must be admitted that French colonies require very different organization and government from those belonging to Britain or Holland.

The French are not accustomed to local government, and the country is too prosperous to find extensive emigration necessary. Thus French colonists are in the habit of looking for everything to the hands of government. The mother-country is not, as England and Holland are, merely the protector of the colonists' interests; it must also employ its resources in, so to speak, setting the colony in order for the colonists. It is thus only natural that the leading parts in the French colonies are played, not by the merchants, but by the government officials; while the settlements are for years a heavy burden on the national exchequer, before they are sufficiently established to be able to produce for the benefit of their generous parent. In the older French colonies this point has been already reached; the springs of their natural wealth have begun to flow, and the relations with the natives have been so far regulated that the colonies now exert a beneficial effect on French trade; or, to summarize it in a sentence, the present condition of those possessions, after long years of sacrifice of life and treasure, may now be described as prosperous, and in many cases well-organized.

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[1] This is exclusive of mere protectorates and spheres of influence.

The later acquisitions have still to pass through this severe probation, so that neither the actual extent nor the value of the French colonial possessions has yet attained a stable equilibrium.

The French colonial empire, with branches in four continents, is the third in point of value; it already excels the Spanish and Portuguese possessions.

Politically these colonies are entirely dependent upon the mother-country. Some have representatives in the French chamber, but the great majority are ruled by governors responsible only to the home government.

Efforts are being made to obviate the dire necessity of sacrificing French troops to the deadly climate of the colonies, by forming native regiments under the command of French officers. This arrangement, while it fully attains its principal object, is also accompanied by great benefit to the natives, for after their period of military training they are capable of filling posts of greater responsibility in the colony than would otherwise be the case.

FRENCH COLONIES IN AFRICA.

1. ALGERIA AND TUNIS.

Boundaries and Population.—This territory is bounded by Morocco, the Mediterranean Sea, Tripoli, and the Sahara desert. The area of Algeria is estimated at 260,000 square miles with 3,800,000 inhab.; that of Tunis at 45,000 square miles with a population of 1,500,000.

The *Inhabitants* are Berbers or Kabyles, Arabs, Jews, and Europeans. The total number of Europeans is barely 500,000, of whom 56% are French, 27% Spanish, 3% German, and 3% Italian.

Nearly the entire population are Mahometans, and at one time they fanatically defended their faith from alien creeds. Now, however, the Christians are lords of the land, and the

Roman Catholics of Algeria have an archbishop and suffragans of their own. Protestants are also found.

Algeria was formerly the most powerful of the pirate-states of the Mediterranean, but since 1830 it has been a French colony. It is now divided into three departments, under a governor-general. Tunis was formerly a Turkish regency, but since 1881 it has formed a nominal protectorate of France, though in reality it is entirely dependent upon that country.

PHYSICAL FEATURES.

The greater part of Algeria and Tunis is mountainous, being traversed from south-west to north-east by the parallel chains of the greater and lesser Atlas, which, however, seldom rise above 5250 ft. The country is thus divided into several long zones or strips—viz., the *Rif*, or the coast-plain, only partially arable; the *Tell*, or the district of the lesser Atlas, well adapted for agriculture and stock-farming; the *Shotts* (*e.g.* the shott of Kebir in Tunis, which the French propose to flood), barren and marshy saline districts between the mountain ranges; the *Tell* of the greater Atlas; and finally the *Algerian Sahara*, with fertile oases and with steppes covered with vegetation during the winter-rains (the Biledulgerid or date-land of the Orientals).

The *Rivers* are generally short and intermittent in their depth of water. The *Shelif* is the chief coast-stream.

The *Climate* is different in the different regions, though speaking generally, it resembles the climate of southern Italy or southern Spain. The summers are hot and dry, the winters mild and rainy. Snow falls on the mountains. Many Europeans now spend the winter in Algeria.

DIVISIONS AND CHIEF TOWNS.

1. **Algeria** is divided into three *Departments*, each of which embraces a "territoire civile" and a "territoire militaire," subdivided into "arrondissements."

(1) *Algiers.*—*Algiers* (71,000 inhab., including many Europeans), the seat of the governor-general and of the archbishop; Blidah; Orléansville.

(2) *Constantine.*—*Constantine* (38,000 inhab., including 2000 Europeans); Philippeville, the port of Constantine; Bona; Bugia; island of Tabarca. Lambese is a penal settlement.

(3) *Oran.*—*Oran* (58,000 inhab.; 24,000 Europeans, including many Spaniards) has a good harbour, and is strongly fortified; Mostaganem; Tlemsen; Mascara.

2. **Tunis.**—*Tunis* (150,000 inhab.; many Europeans), with its harbour at Goletta; Susa; Gabes; Sfax; Kairwan; Tozer in the Biledulgerid.

NATURAL PRODUCTIONS.

1. Under French administration a large area, formerly almost useless, has been brought under cultivation, and an increasing proportion of the people are adopting a settled instead of a nomadic mode of life. Only about $\frac{1}{50}$th of the total area is under crop, however. The French government has spent large sums in assisting not only the French colonists but also the native Kabyles, while it has also covered what were formerly tracts of barren sand and naked rock with groves of palms and other trees, by boring artesian wells and building aqueducts. The construction of roads has also very materially assisted the cultivation of Algeria.

The chief products of the **Vegetable Kingdom** in Algiers and Tunis are grain, wine, oil, tobacco, dates, southern fruits, etc. The cultivation of cotton, madder, vines, vegetables, and olives has been introduced into Algiers. Large quantities of cork and timber are exported to France from the extensive forests; alfa or esparto-grass is exported to Britain for paper-making.

2. The **Live Stock** has long enjoyed a high reputation. The French as well as the Arabs bestow particular attention upon the breeding of *Horses*, *Camels*, and *Sheep*.[1] Skins, ostrich-feathers, and ivory are among the fruits of the chase.

3. **Mining** has also received a fresh impetus under French

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[1] Barbary horses, improved centuries ago by crossing with Arabian breed, are reckoned among the best in the world. The Barbary sheep is believed to be the parent of the merino.

rule, and yields *Iron*, *Copper*, *Lead*, and *Salt* in Algeria, and quicksilver in Tunis. Fine coloured *Marbles* are quarried at Chemtou, and near the Montagne Grise in western Algeria.

MANUFACTURES AND TRADE.

The *Manufactures* carried on by the Arab natives of these states closely resemble those of the neighbouring countries, and are restricted to the production of *Leather*, *Silk*, and woollen fabrics, weapons, oriental apparel, carpets, perfumery, ornaments, etc. The French carry on few manufactures in Algeria.

The *Commerce* of Algeria and Tunis is almost entirely carried on with France, as the commerce of India is with England. The French possessions ship their raw productions and those of the interior of Africa to the mother-country, and receive in exchange manufactured goods of all kinds (especially textile), tobacco, coal, etc.

The French have constructed a railway-system (1550 miles of lines, of which 1250 are in Algeria) to facilitate internal communication and promote production, but also for strategic reasons. The railway extends from the borders of Morocco to Tunis, sending off various branches into the interior. Of the 6200 miles of *Telegraph-lines*, 3700 are in Algeria.

Caravans form the other usual means of overland transport both within the borders of Algeria and also thence to the Sahara and the Soudan.

The active *Maritime Traffic* centres mainly in the towns of Tunis, Algiers, and Oran. About 20,000 vessels, mostly, however, coasting-craft, annually enter and clear at the ports of Algeria and Tunis.

Tunis, with its harbour of Goletta, advantageously situated between the eastern and western halves of the Mediterranean, is perhaps destined to play in the future an important part in the commerce of Northern Africa, as Carthage, the site of which is close by, did in ancient times. Algiers and Oran possess tolerably well-sheltered artificial harbours.

These ports are connected by several lines of steamers with France (Marseilles), Spain, and Italy.

In 1891 the *Imports* into Algeria were valued at £11,000,000, of which £8,200,000 represented imports from France. The *Exports* were valued at £9,400,000. Tunis imported goods to the value of £1,500,000, and exported goods to the value of £1,750,000.

The exports to France from Algeria are chiefly grain, wine, animals, wool, hides, cork, fruits, etc. Britain receives alfa and other fibres for paper, iron ore, barley, etc., giving a total of £600,000 or £800,000.

2. FRENCH POSSESSIONS IN SENEGAMBIA.

The French possessions on the Senegal and Gambia rivers are estimated to embrace an area of 117,000 square miles, with a population of 200,000.

The French are endeavouring to attract the current of trade from Timbuctoo and the Upper Niger to their factories by advancing their military posts, and by the construction of railways and the institution of lines of steamers; while they are at the same time attempting to develop the capacity of these extremely fertile districts (coffee grows wild) for plantations. The deadly climate effectually prevents all large settlements of Europeans; in the hot season the thermometer often registers 122° F.

The chief towns are *St. Louis* (16,000 inhab.), Goree, and Dakar.

Communication is promoted by steamers on the Senegal and by (1887) 250 miles of railways.

The principal productions are india-rubber and other gums from the vast forests on the Senegal, and ground-nuts. Spices, cotton, ivory, and palm-oil are produced in much smaller quantities. In 1886 the value of the *Exports* was about £800,000 (50,000 tons of gums). The *Imports*, consisting mainly of French manufactures, articles for barter with the natives, cotton stuffs, wire, beads, gunpowder, spirits, etc., were valued at £1,000,000.

3. GABOON AND GOLD COAST.

The French possessions at Gaboon and on the Gold Coast (50,000 sq. miles; 200,000 inhab.) consisted until recently merely of factories for bartering with the negroes, and exporting timber, caoutchouc, palm-oil, and ivory, in exchange for European goods, spirits, gunpowder, muskets, ironmongery, etc. Recently, however, coffee, cotton, cacao, rice, and vanilla have been planted with success; and the French have begun to penetrate from the Ogowé in Gaboon towards the Congo. The Ogowé is not suited for navigation, but its basin is fertile. The climate is very deadly. *Imports* £80,000; *Exports* £80,000. The chief French possessions on the Gold Coast are Grand Bassam, Assinie, and Cootenoo; on the Slave Coast, Porto Novo, Grand Popo, and Agué.

4. RÉUNION.

The island of Réunion (formerly called *Ile Bonaparte* or *Bourbon*) has an area of 970 square miles, with 180,000 inhabitants, consisting of coolies (120,000), Kaffirs, and French. It is covered with volcanic peaks,[1] but its abundant water-supply renders it very fertile. In the higher regions the climate is healthy. The chief natural productions are *Sugar* (600,000 cwts.), coffee, cloves, rice, *Vanilla*, and tobacco.

Réunion is divided into two arrondissements. The chief towns are *St. Denis* (30,000 inhab.) on the north-east, St. Pierre on the south, and St. Paul on the west. St. Denis is the commercial capital, and the seat of a colonial bank and of an apostolic vicar. There are 80 miles of railway in use.

The *Exports* are the above-mentioned products; the *Imports* are manufactures and other European goods. In 1889 the aggregate value of both was £1,480,000.

5. COMORO ISLANDS.

The French have recently been seeking to establish themselves upon the very fertile but very unhealthy island of *Mada-*

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[1] The Piton de Fournaise (11,150 ft.) has been uninterruptedly active since 1785, and sends two lava-streams into the sea almost every year.

gascar.[1] The chief basis of their operations has hitherto been the small islands of *Nossi-Bé* and *Mayotte* on the N.W. coast, and *Ste Marie de Madagascar* on the N.E. coast (together 250 square miles; with 27,000 inhab.), which have long been in their possession. But in 1886 a French protectorate was formally declared over the *Comoro Islands* (1600 sq. miles; 53,000 inhab.), of which Mayotte is practically the most southerly member. The largest islands of the group are *Grand Comoro,* and *Johanna* or *Anjuan.*

6. OBOCK.

Obock (195 square miles), situated amid barren surroundings on Tajurra Bay, opposite the straits of Bab-el-Mandeb, was acquired by the French in 1857. Attention has lately been directed to this spot, and attempts are being made to develop it into a second Aden, with the double view of controlling the navigation of the Red Sea and, still more, of appropriating the trade with south-eastern Abyssinia and Galla Land. The advantageous geographical position of Tajurra Bay seems to favour the design.

FRENCH COLONIES IN ASIA.

1. POSSESSIONS IN HINDOSTAN.

France owns a few detached points in Hindostan, viz. *Pondichéry, Chandernagore, Carical, Mahé,* and *Yanaon,* which have an aggregate area of 200 square miles, and a population of 272,000.

The capital is the handsomely-built *Pondichéry* (30,000 inhab.), which carries on a very active trade. Carical is the second town.

These trading settlements are chiefly engaged in the export of *Rice, Indigo,* and *Oil-seeds.* Their commerce represents an annual turn-over of about £1,360,000.

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[1] By a treaty signed in December 1885, France acquired the right of maintaining a resident with a military escort at the capital, of controlling the foreign relations of the island, and of occupying the Bay of Diego-Suarez, so that Madagascar is now practically a French protectorate.—TR.

2. POSSESSIONS IN INDO-CHINA.[1]

(1) **Cochin-China,** with the tributary kingdom of Cambodia, occupied in 1862 and 1864, with an area of 60,000 square miles and a population of 3,200,000.

(2) **Annam,** placed under French protection by treaties in 1874, 1883, and 1884, with an area of 102,000 square miles and 6,000,000 inhabitants.

(3) **Tonquin,** conquered in 1883–85, with an area of 35,000 square miles and a population of 9,000,000.

It has become an object of France, in the second half of the present century, to found a colonial empire in Farther India, a "French India," beside the British and the Dutch.

The countries occupied by the French with this view certainly possess all the conditions favourable to the foundation of rich and prosperous colonies. They belong to the most fruitful and well-watered countries of tropical Asia; the Annamese population has for centuries been accustomed to regular and close labour as well as to a blind obedience to their rulers; and they are sufficiently civilized to supply a market for French manufactures that is by no means to be despised.

The chief vegetable production of these French possessions, as of the whole of Eastern Asia, is *Rice*, which forms the staple food of the natives. But all the productions of the tropics also flourish there, including valuable timber, sugar, coffee, tea, tobacco, indigo, pepper, cotton, palms, areca-nuts, camphor, muscat-nuts, etc.

It has been proved beyond a doubt that these countries also abound with all kinds of minerals; iron, silver, gold, and copper have been long worked there by the Chinese. Both mining and planting only need European encouragement to reach a very prosperous condition. The neighbourhood of China is of great advantage to such undertakings, for that country willingly supplies abundance of good and cheap labourers, well adapted to stand the climate.

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[1] In October 1887 these possessions were united under one civil governor-general of Indo-China, with a lieutenant-governor in Cochin-China, a resident-general in Tonquin and Annam, and a resident-general in Cambodia.—TR.

The success of the French in Cochin-China is the best proof of what these possessions are capable of becoming.

The most important means of communication are still the *Rivers.* The chief are the *Mekong* in Cochin-China, in the delta of which the French have developed the cultivation of rice until it competes with British India, and the *Song-Ka* (red river) in Tonquin. The lower courses of both these streams are navigable for tolerably large vessels, but the middle and upper course of the Mekong is less adapted for shipping. A *Railway,* 50 miles in length, has been constructed from Saigun to Mytho.

The chief trading-centres are *Saigun* (50,000 inhab.), in Cochin-China, 37 miles above the mouth of the Mekong, a naval station and the rival of Rangoon; *Hué* (50,000 inhab.), in Annam; and *Hanoi* or *Kesho,* and the port of *Hai-phong,* in Tonquin. These towns are connected with Marseilles by submarine-cable and by lines of steamers.

One of the important consequences of the possession of these countries for the French is the prospect of sharing in the trade with Southern China.

The retail trade and part of the wholesale trade are in the hands of Chinese, but the commerce with Europe, amounting, however, to not much more than £6,000,000 in annual value, is managed by Europeans. The climate is dangerous to the latter, who, as in all Asiatic colonies, number only a few thousands.

These French colonies have, in all probability, a brilliant and prosperous future before them; but it must not be forgotten that it is to be reached only by a costly sacrifice of both life and treasure.

FRENCH COLONIES IN AUSTRALASIA.

The French possessions in Australasia consist of several groups of islands, some of which are directly subject to France, while others are so-called protectorates.

In the first class are **New Caledonia** with the **Loyalty**

Islands, the **Marquesas Islands**, **Tahiti** or **Society Islands**, and the **Mangareva Group**.

In the second class are the **Tubuai** or **Austral**, and the **Tuamotu** or **Low Archipelagos**.[1]

The aggregate area of all these islands is 9375 square miles, and the total population barely 80,000, of whom not more than 20,000 are European. The majority of the latter (17,000) are found in New Caledonia, which is the chief penal settlement of France (12,000 convicts). The natives illustrate various stages of civilization; some are still cannibals, but the majority carry on primitive agriculture and fisheries. They are apparently gradually dying out. As it is difficult to reconcile these natives to the regular toil required by the Europeans, coolies have had to be imported in many places.

The *Climate* is tropical, but so modified by the influence of the sea as to be adapted to Europeans.

Most of the islands are of volcanic origin, and have summits rising to the height of 6500 ft. above the sea-level; but some (*e.g.* the whole Tuamotu group) are coral-islands and lagoon-islands. Coral-reefs also render the coasts of nearly all the islands dangerous.

The chief centres of trade are *Noumea* in New Caledonia and *Papeete* in Tahiti.

The natural wealth of these well-watered and fruitful islands is very great, but nothing like a thorough exploitation of their resources has as yet been begun. Most has been accomplished in New Caledonia, where planting and mining (nickel, copper, chrome and cobalt) have been promoted by the labours of the convicts and free settlers (about 4000). Coal has also been found. Tahiti stands next. Yams, sweet-potatoes, bananas, bread-fruit trees, cocoa-nut palms, etc., are among the indigenous plants of this latter island, while other tropical plants, introduced by Europeans, are also now cultivated in plantations, *e.g.* cotton, sugar, vanilla, rice, maize, coffee, tobacco, and oranges. Some of these imported plants thrive remarkably well; the cotton of Tahiti, for example, competes with the best American growths.

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[1] In 1887 the French declared protectorates over Wallis Island and Raiatea, near Tahiti.—TR.

All the European domestic animals, except the dog and the pig, were introduced by the French; but the number of live stock is not sufficient to meet the demand. The *Pearl-fishery* is exceedingly productive; the yield of mother-of-pearl (black mother-of-pearl) from the Tuamotu group amounts to 4,400,000 lbs. per annum.

Manufactures can scarcely be said to exist.

The means of *Communication* are also very limited. Every month a steamer leaves Noumea for Sydney, and a sailing-vessel leaves Tahiti for San Francisco. The French postal service has 33 offices among these islands.

The chief *Exports* are cotton, mother-of-pearl, oil-seeds, guano, and vanilla. The chief *Imports* are manufactures of all kinds, especially cotton cloth, metal goods, flour, biscuit, and provisions. Trade is mainly in the hands of English, American, and German merchants.

The opening of the Panama Canal will probably much increase the importance of these French colonies.

FRENCH COLONIES IN AMERICA.

The French now retain only a few fragments of their once extensive possessions in America, and of these only the French West India islands are of any real value.

1. **St. Pierre and Miquelon**, small islands near Newfoundland, with a population of 6300, are important stations for the French cod-fishing fleet on the Banks of Newfoundland. St. Pierre is the landing-place of telegraph cables from Europe.

2. In the West Indies the French possess several of the Lesser Antilles, *e.g.* **Martinique and Guadeloupe,** and other small islands, including *La Désirade*, *Marie Galante*, etc. Martinique contains 385 square miles, with 169,000 inhabitants; Guadeloupe has 730 square miles, with 181,000 inhabitants. The total white population numbers barely 20,000. Both islands have numerous schools.

Martinique and Guadeloupe were discovered by Columbus. Both are mountainous and well-watered. The *Climate* is hot, the annual mean temperature being 80° F., but not unhealthy for Europeans. Hurricanes and earthquakes are frequent. Since the abolition of slavery in 1848, coolie labour has been largely employed on the plantations.

The principal productions of these islands are coffee (introduced in 1650), sugar (2,000,000 cwts.), cacao, tobacco, cotton, timber (especially logwood), and rum. These are exported to the annual value of nearly £1,640,000, which is approximately balanced by the *Imports* (provisions, manufactures).

The chief trading-centres are *Fort de France*, the capital, and St. Pierre, in Martinique; and *Basseterre*, the capital, and Pointe-à-Pitre in Guadeloupe. These islands are connected with France by submarine-cables and by the steamers of the Compagnie Transatlantique.

3. **French Guiana** (Cayenne[1]) has an area of 47,000 square miles, and a population of 27,000, of whom 3000 are free whites, 1000 to 6000 convicts, 3000 coolies, and the remainder Indians and negroes.

The interior of the country is mountainous, and clad with magnificent forests; the coasts are flat, and partly marshy.

The *Climate* is hot and moist, and very dangerous to Europeans, as though the thermometer rarely rises above 104° F., it never falls below 69° F.

Only about 12,500 acres of land are cultivated, though it is extremely fertile. Limited quantities of *Cayenne Pepper*, coffee, cacao, cotton, timber, caoutchouc, and rocou (annotto) are produced. The yield of *Gold*, amounting in value to about £240,000 annually, is increasing in importance.

The capital is *Cayenne* (8000 inhab.), a picturesquely-built fortified town, situated on a marshy island with a poor anchorage. It is the seat of the governor, and contains a colonial bank and several schools. The Compagnie Transatlantique maintains regular communication between this port and St. Nazaire.

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[1] Cayenne, discovered by Columbus in 1498, was occupied by the French in 1625.

The above-mentioned productions are exported in return for provisions and manufactures. The total trade represents an annual turn-over of only £52,000.

During the French Revolution, and again in 1852 and 1871, Cayenne was used as a penal settlement. The convicts sent here, who are employed on plantations, in saw-mills, etc., are practically condemned to death, for in consequence of the Cayenne fever, a year's residence is sufficient to shatter the health of all Europeans. For this reason the deportation of convicts to Cayenne has been repeatedly given up, and for the same reason the immigration of free settlers is impossible.

SPAIN.

SITUATION AND AREA.

The kingdom of Spain lies between 36° and 44° N. lat., and between 9° 15′ W. and 3° 10′ E. long. It is bounded by France, the Atlantic Ocean (Bay of Biscay), Portugal, and the Mediterranean Sea (on the south and east).

The European possessions of Spain embrace an area of 196,000 square miles, with (1885) a population of 17,200,000. The *Canary Islands* and the *Presidios* in North Africa, embracing over 3000 square miles, with 300,000 inhabitants, are also generally reckoned along with the European possessions.

The *Spanish Colonies* have an aggregate area of 167,000 square miles, with a population of 8,000,000.

POPULATION.

The population of Spain consists for the most part of Spaniards, *i.e.* a mixed race formed by the intermingling of all the nations that have succeeded each other in the Iberian peninsula, viz. Iberians, Celts, Romans, Visigoths, Suevi, Vandals, and Moors. The national tongue is Spanish.

In the Sierra Nevada and Sierra Morena there still linger about 60,000 *Moriscos*, or descendants of the Moors; in the north there are about 500,000 pure Basques (descendants of the Iberians); and in the Sierra Morena some German colonists. Besides these must be reckoned about 50,000 gypsies, and a few thousand Jews in the mercantile cities.

It must by no means be assumed that the population of Spain now forms one homogeneous whole. For apart altogether from the Basques, who are ethnologically isolated from all other European peoples, a distinction has existed for centuries between the diligent and energetic Catalonians and the reserved and dignified but indolent Castilians. In Aragon and Catalonia the people deliberately speak the local Catalan dialect, akin to the old Provençal, instead of Spanish. And in a similar manner there is a wide distinction between the vivacious and talkative Andalusian, in whose veins flows a large admixture of Semitic blood, and the dignified Castilian and Aragonese.

Nearly all Spaniards are Roman Catholics; for centuries all other religions were persecuted with fire and sword.

The most densely populated districts (281 per sq. m.) are situated on the coasts; the most thinly populated (36 per sq. m.) in the interior, where there are extensive desert tracts. The average density of the whole country is 85 inhab. per square mile.

The Spaniard is endowed with numerous good qualities, which, however, have been almost entirely neglected until comparatively recent times. There are now upwards of 30,000 primary schools, attended by 1,800,000 pupils; but the older generations of the poorer classes are for the most part unable either to read or to write. The middle schools and the once famous universities are immeasurably inferior to the corresponding institutions in Germany. There are a few special schools in Madrid. Spaniards seldom learn any language but their own.

Tyranny and misgovernment, the unfavourable division of the land, which was monopolized by the nobility and the church, and above all, the wealth formerly drained from the immense possessions in America and Asia, contributed to undermine the capacity of the people for labour and to ruin the once prosperous and mighty country.

Since the loss of their richest colonies, however, the Spaniards have endeavoured to obviate these crying evils; but perpetual and sanguinary civil wars long effectually prevented the success of this work of peace. Under the present government a lasting period of tranquillity has permitted, for the first time, a rapid development of the rich national resources.

PHYSICAL FEATURES.

The greater part of Spain is mountainous. In the north the boundary with France is formed by the chain of the *Pyrenees*, which stretch for 280 miles, with a ridge averaging 8200 ft. in height. A few summits, such as the Mont Perdu (10,990 ft.), and the Maladetta with the Pic de Nethou (11,150 ft.), far exceed this height. Towards the west the Pyrenees are continued by the Cantabrian Mountains through Asturias and Galicia.

On the south and east various ranges (*e.g.* the metalliferous Catalonian mountains) run parallel to the steep slopes of the Pyrenees. The Pyrenees themselves are sparsely wooded, infertile, with no mountain pastures, and with no mines. The means of communication are very defective, for, with the exception of the two coast-roads (on the east from Gerona to Perpignan, on the west from St. Sebastian to Bayonne), the range is crossed only by rough or inconvenient routes (*e.g.* the famous Pass of Roncesvalles).

The *Baetian Range*, with the Sierra Nevada (Cerro de Mulhacen, 11,660 ft.), is the second great range of Spain.

The centre, the heart of the country, is occupied by the two extensive table-lands of *Old Castile* and *New Castile*, divided from each other by the *Sierra Guadarrama*, and bounded on the north by the Cantabrian Mountains, and on the south by the *Sierra Morena*, which separates Castile from Andalusia.

This double central table-land is dry, unfertile, and devoid of the products of the south, and is better suited for cattle-raising than for tillage.

Spain contains two great lowland valleys or plains, the *Aragonese Plain* in the north, between the Pyrenees and the Iberian mountains; and the *Andalusian Plain* in the south, between the Sierra Morena and the Sierra Nevada. These plains, like the level coast-districts, are among the most favoured regions in Europe, but their extent is small compared with that of the table-lands.

RIVERS, LAKES, AND CANALS.

The rivers of Spain flow partly into the Atlantic and partly into the Mediterranean Sea. Many of them are for the greater part of the year very deficient in water, and not navigable, and therefore of little value for shipping or even for agriculture. Of the 800 miles of water-ways in Spain, only 300 are available all the year round.

The chief *Rivers* are:—

1. In the basin of the Atlantic.—The *Miño* (Minho); *Duero* (Douro), flowing across the plateau of Old Castile; the *Tagus*, flowing through New Castile; *Guadiana;* and *Guadalquivir.* The last-named, which flows through part of the Andalusian plain, is the deepest river in Spain.

2. In the basin of the Mediterranean.—The *Ebro*, flowing through the Aragonese plain; and the small streams of the Segura, Jucar, Guadalaviar, and Llobregat.

The majority of the *Canals* are either still unfinished or have become unfit for use. Most of them were intended to irrigate arid districts, but after the expulsion of the Moors they were suffered to fall into disrepair in spite of their great importance. Of the total length of 430 miles, only about a third is now navigable. The chief canals are the *Canal Imperial de Aragon* (75 miles) from Tudela to below Saragossa, constructed under Charles V. to avoid the rapids of the Ebro; and the *Castilian Canal* (95 miles) from the junction of the Pisuerga and the Duero to Alar del Rey.

There are no important *Lakes* in Spain; that of *Albufera* near Valencia is the largest.

CLIMATE.

It would be a great mistake to picture Spain as a land of eternal spring, abounding like Italy in groves of olives and oranges and evergreen trees. Such climatic conditions are found, on the contrary, only in a small part of Spain, viz. on the north, in Galicia, the coast-districts, and Andalusia. The bare interior has a very "extreme" climate.

The summers in the interior are so hot that nearly all the rivers are dried up, the earth becomes so parched and unproductive that whole villages are sometimes compelled to emigrate. These scorching summers are succeeded by severe winters, so that it is a proverbial saying in Madrid that there they have nine months of hell and three months of winter. There is a similar difference of temperature between the day and the night. In the plains and on the coasts the hot summer (Seville is warmer than Havanna) is followed by a cold rainy season, terminating in April in a beautiful spring. The mean temperature at Malaga in summer is 77° F., in winter 57°; at Barcelona 77° and 50° F., and at Madrid 75° and 44·6° F.

Notwithstanding the proximity of the sea the *Rainfall* in Spain is very small. In the interior between 8 and 12 inches fall per annum; in many districts the destruction of the woods has aggravated this evil.

The hot south wind of Andalusia, known as the *Solano*, and the cold north wind called the *Gallego*, are peculiar to Spain.

DIVISIONS AND CHIEF TOWNS.

Castile.

1. *New Castile.*[1]—*Madrid* (capital, and residence of the court, including suburbs 501,000 inhab.), Toledo, Alcala, *Almada.*

2. *Old Castile.*—*Burgos* (29,000 inhab.), Segovia, Valladolid (52,000 inhab.), Soria, *Santander* (35,000 inhab.).

3. *Leon.*—*Leon,* Salamanca.

4. *Austurias.*—*Oviedo,* Gijon.

5. *Galicia.*—*Coruña* (34,000 inhab.), Ferrol, Vigo, Santiago de Compostella.

6. *Estremadura.*—*Badajoz,* Merida.

7. *Andalusia.*—*Seville* (with suburbs 133,000 inhab., Alcazar

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[1] The names of the old historic divisions of Spain are used in this list; the country is, however, now divided into 49 smaller "provincias."

Palace of the Moorish Kings), *Cadiz* (58,000 inhab.), Palos, *Jerez de la Frontera* (64,000 inhab.), *Cordova* (49,000 inhab.), Jaën. Gibraltar belongs to Britain.

8. *Granada.—Granada* (73,000 inhab.; containing the Alhambra, the palace of the Moorish Kings), *Malaga* (113,000 inhab.), Almeria.

9. *Murcia.—Murcia* (94,000 inhab.), Cartagena (78,000 inhab.).

Aragon.

1. *Aragon.—Saragossa* (81,000 inhab.), Teruel.

2. *Catalonia.—Barcelona* (247,000 inhab.), Tarragona, Tortosa, Reus, Gerona.

3. *Valencia.—Valencia* (with suburbs, 144,000 inhab.), Alicante (35,000 inhab.).

Among the Pyrenees is the Republic of **Andorra**, under Spanish and French protection, containing 200 square miles and 5800 inhabitants.

Navarre.

Navarre.—Pampluna (25,000 inhab.).

The Basque Provinces.

Biscaya, *Guipuzcoa*, and *Alava* with the towns of *Bilbao* (34,000 inhab.), *San Sebastian*, Irun, Tolosa, and Vitoria.

The *Balearic Islands* (1860 sq. m., with 302,000 inhab.): *Majorca*, with Palma (59,000 inhab.), the capital; *Minorca*, with Port Mahon, the capital; and the tiny *Cabrera*.

The *Pithyusae Islands:* Iviça and Formentera.

NATURAL PRODUCTIONS.

1. **Vegetable Kingdom.**—In treating of the climate, it has already been indicated that a great part of Spain must be described as infertile, chiefly on account of the deficient water-supply.

As in all countries in which winter-rains prevail, measures require to be taken to secure irrigation during the rainless months. The Romans, and still more the Arabs, constructed irrigation works on the most extensive scale, but their marvellous constructions were afterwards suffered to fall into decay. The destruction of the forests increased the evil, especially on the table-lands, though Spain is by no means so destitute of trees as is often supposed. Out of the 125,000,000 acres which the country contains 7,500,000 are under wood. Large quantities of timber must, however, also be imported from Scandinavia and North America.

Although seven-eighths of the population subsist by agriculture, that industry attains an advanced development in only a few districts. In general the husbandry of Spain is of an antiquated and primitive character.

The most profusely watered and the best cultivated province is Valencia, where three or four crops are harvested every year. The level provinces of Catalonia, Murcia, and Andalusia are also very fertile; while the Basque provinces of Asturias and Galicia, though less productive, are carefully cultivated.

The northern provinces export cereals in good years; the southern provinces maize and rice.

Leguminous Vegetables, a staple article of food in Spain, are also raised in sufficient quantities to provide an overplus for export (to America).

Apples, *Pears*, etc., and *Southern Fruits* (almonds, chestnuts, figs, pomegranates, carobs) are produced in abundance in Andalusia, Granada, Murcia, and Valencia; *Oranges*, lemons, and *Olives* grow in enormous quantities chiefly on the Mediterranean coast. A large quantity of *Olive-oil* is exported, mostly rather inferior in quality.

The cultivation of the *Vine* is the most important branch of Spanish husbandry. Between 440,000,000 and 700,000,000 gallons of wine are annually produced, valued at £20,000,000. Most of the Spanish wines are neither cheap nor lasting, owing to the inferior system of cultivation and manufacture; but in the African climate of the south are produced the famous wines of Malaga, Alicante, and Jerez (sherry). Vineyards and model wine-making establishments have recently been started in considerable numbers and with considerable success by English capitalists.

Besides between 110,000,000 and 130,000,000 gallons of wine, Valencia, Malaga, and Alicante also export 72,600,000 lbs. of raisins, and great quantities of grapes.

Among the other important plants are hemp and flax, grown mostly in the northern provinces; *Esparto* and rushes, on the coast and in the interior (largely used for baskets and mats); *Saffron*[1] and *Dye-plants*, in Murcia and Aragon; sugar-cane in Andalusia and Valencia; *Woad* on the Ebro.

Spanish *Pepper* is found in Estremadura.

The *Cork-tree*, from which the bark may be stripped every ten years, is found in Granada and to the south-west of the Pyrenees, and also at various other points throughout the country. The total production of cork is estimated at 50,000 tons.

The finest *Meadow-lands* are found only in the north-west; pasturage, on the other hand, is abundant.

2. **Animal Kingdom.**—The breeding of domestic animals in Spain, which at one time occupied a very high level in certain branches, has retrograded, and even exercises a limiting and prejudicial effect upon agriculture, owing to the ignorant manner in which it is now carried on.

The most celebrated domestic animal of Spain is the fine-fleeced *Merino Sheep*,[2] which, however, is not now so numerous as formerly. Among the 23,000,000 sheep that at present exist a large number are said to have coarse fleeces.

The best proof of the deterioration of the Spanish sheep is the fact that rams have been imported from Germany, where the native breed was itself originally improved by crossing with merinos.

In summer the flocks graze upon the boundless plains of the central table-land, which are covered with aromatic herbage, but in winter they are driven down to the lower districts, especially to Estremadura. The right of the *mesta*, or flock-masters to pasture their sheep for 30 yards on each side of the road during the march has long been legally abolished, but it is said to be still exercised to some extent by the owners of the migratory flocks.

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[1] Spain is the chief saffron-producing country in the world.

[2] The Merino comes originally from Barbary.

In the mountainous districts there are about 4,000,000 *Goats*, which do great damage in these already scantily-wooded districts, by browsing on the young trees. In the Sierra Nevada a single peasant sometimes owns 3000 or 4000 goats.

The best *Horses* are reared in Andalusia and Asturias; but horse-breeding is much neglected in favour of the universally prized mule. Spain contains about 500,000 horses.

Mules and *Asses* are bred with great care in very many parts of Spain, for these sure-footed animals, which are by no means destitute of spirit, have in great measure superseded horses. They are estimated at about 2,000,000.

Horned Cattle are comparatively few in number, amounting to barely 2,400,000 head. They are most numerous in the pastoral Basque provinces, to which also dairy-farming is confined. The *Wild Cattle* for bull-fights are obtained from the Sierra Guadarrama and the Sierra Morena, where they are preserved.

Pigs are kept chiefly in the mountainous parts of the kingdom, especially in the north and in Estremadura.

Silk-worms are largely bred in Valencia and Murcia, and *Bee-keeping* flourishes in Estremadura and the Sierra Morena.

Valencia, Cadiz, and Malaga are computed to produce about 8000 cwts. of *Cochineal.*

Fishing,[1] which is carried on by sea only, does not meet the demand. Much fish is imported from Norway.

3. **Mineral Kingdom.**—In antiquity Spain was believed to be the richest metal-producing country in the world, and it retained this reputation till the discovery of America. The treasures of Spain dwindled into insignificance compared with the riches found in America, mining at home was abandoned, and everyone flocked to the New World to become rich at a bound. But when the wealth of the Andes was lost to

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[1] Both hunting and fishing in Spain are unrestricted.

Spain in the present century, the Spaniards were glad to turn their attention once more to their native minerals. Spain is the most metalliferous country in Europe, the Ural district not excepted. Insufficient fuel and defective communications interfere with the rapid development of mining in Spain, but the chief reason of the inferior state of that industry is found in the Spaniards themselves. Most of what has been done in recent times has been accomplished by foreign capital, while most of the ore is exported to foreign countries in its raw state. The rich iron ore (5,000,000 tons) goes to England and Germany (Krupp at Essen), so does the copper ore (700,000 tons); while Spanish gold and silver ores are smelted at Freiberg in Saxony.

Coal and *Lignite*[1] (about 800,000 tons) are worked principally in *Asturias*, Leon, Lerida, and Oviedo in Castile, but are so far from meeting the demand that even in the coal-producing provinces the railways burn English coal.

The *Quicksilver* mines of Almaden, which produce annually about 1000 tons, are the richest in the world.

Lead is found in large quantities in the Alpujarras of Granada and the mines of Linares in Jaën. Lead-mining has awakened new life in Granada, and the former poverty and misery are steadily disappearing. Spain produces more lead (250,000 tons) than all the other countries of Europe.

Copper is found in inexhaustible quantities in Murcia, Oviedo, Jaën, Zamora, and on the *Rio Tinto*, in southern Spain. The Rio Tinto mines, which have been worked by English and German companies since 1873, are splendidly organized, and are now among the most extensive works of the kind in the world.

Iron of good quality is found in considerable quantities in Andalusia, the Sierra Morena, Leon, and the Basque provinces. But as already mentioned this source of wealth is little exploited by the Spaniards themselves. Only about 300,000 tons of iron are produced in Spanish foundries.

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[1] Nearly every province contains coal-measures. The supply now discovered is estimated at 13,000,000,000 tons.

Salt in Spain is chiefly obtained from the sea at Cadiz, Valencia, and the Balearic Islands. Catalonia and New Castile abound in *Rock Salt*. The total production of salt is about 500,000 tons, of which a large proportion is exported.

Sulphur, soda, saltpetre, alum, graphite, and potter's clay are among the other minerals of Spain.

Mineral Springs are numerous; the best known are the thermal sulphur springs of Mombuy in Catalonia.

MANUFACTURES.

Spain at the time of the Moorish dominion, and even in the 16th century, was one of the leading industrial countries of Europe, but the expulsion of the skilful Arab workmen, the wholesale emigration to the new American colonies, the later lengthy wars and bloody revolutions, and most of all an outrageous system of monopolies and privileges, have gradually dethroned it from that dignified position. When the era of wholesale manufactures dawned it found this country destitute both of political tranquillity and of capital, so that to-day Spain has been distanced by nearly all the other nations of Europe, to whose advance it paid no heed. The minor manufacturing industries are limited by the comparatively small purchasing power of the inhabitants, while the wholesale manufacturing industry is still in its infancy and to a great extent dependent upon foreign influences. In recent decades, however, efforts at improvement have been made, and not without success; but in spite of the undeniable advance, there is still hardly a branch of industry that fully supplies the domestic demand, and manufactures are still largely imported. The most independent and important industries are the manufactures of cotton, flour, and oil.

The industrial province of *Catalonia* has always been the home of the greater part of the Spanish manufactures. Next in order come Galicia, Asturias, and Biscaya (*i.e.* those districts in which water-power abounds), and a few towns in the interior.

In Catalonia the most prominent town is *Barcelona*, the leading manufacturing town in Spain, and the chief seat of the textile industries, lace-making, and the metal, paper, and leather industries.

The *Cotton Industry* (1,800,000 spindles), which has begun to improve on the whole eastern coast, is dependent for its patterns upon France and England, and does not cover the native consumption. The *Silk Industry* of Valencia, Murcia, and Andalusia, and the *Woollen Industry* of Barcelona, Alicante, and Burgos also fail to supply the home demand, both in quantity and quality.

The Arabs of Spain were at one time famous for *Leather-working*, especially in *Cordovan Leather.* This lucrative branch of industry has been suffered by the Spaniards to fall into neglect, in spite of the abundance of the raw material. The once prosperous Cordova (42,000 inhab., formerly 1,000,000) no longer retains its leading position in this industry, though it is worthy of mention along with Seville, Barcelona, and other towns.

Paper-making in Barcelona and Gerona is steadily growing in importance, although it still falls short of the national demand. The soft paper used for packing oranges is imported from Austria-Hungary. Alcoy manufactures large quantities of cigarette-paper.

The manufacture of *Tobacco* is a government monopoly, and is carried on on a wholesale scale in the royal factories of Madrid (Spaniol), Valencia, *Seville*, etc.

The *Metal Industry* flourishes best in Catalonia and the northern provinces, but meets the domestic demand in no single department. Even the sword-makers of Toledo have lost their ancient reputation. Most of the metal manufactures imported are brought from Germany.

Gold and *Silver* wares are produced in large quantities in Madrid, Toledo, Seville, and Barcelona.

Gijon, Seville, and Madrid are noted for their *Glass* and *Porcelain.*

Soap is manufactured all over the country.

Philosophical, surgical, and musical *Instruments* are made in the larger towns; the last are highly prized.

The manufacture of *Chocolate* (the national beverage) and confections is of considerable importance.

About 2,000,000,000 *Corks* are annually produced, chiefly in the province of Gerona.

TRADE AND COMMERCE.

Spain has declined in commercial importance since the 16th century as in every other department. In that century Spain occupied the position now held by Great Britain; it was the leading commercial power in the world, and its flag ruled the sea; now the Spanish flag is among the least respected.

Speaking generally the trade of Spain consists mainly in the export of raw produce, and the import of the greater part of the manufactures consumed in the country.

The **Domestic Trade** is seriously hampered by natural and physical obstacles. As already mentioned only short reaches of the rivers are navigable, the canal system is defective, and the different provinces are separated from each other by lofty mountains. These obstacles were partly surmounted by the Moors, who facilitated internal communications by good roads. But for a long time the Spaniards bestowed no care on their *Roads*, and the consequence is that these are still far too few in number and bad in quality, though much has been done for their improvement in the present century, and especially since the introduction of railways. Until recent times brigandage, constantly fomented by the political troubles, flourished in Spain.

The construction of *Railways* began in 1848. At first the work was languidly carried on; more recently, however, it has been developed (chiefly with the aid of French capital) with considerable energy, in spite of great engineering and other difficulties. In 1892 Spain contained 6500 miles of finished railways and 2500 miles under construction, including examples of the very highest engineering skill. The management of Spanish railways is, however, very far from being satisfactory.

The rapid development of the railway system, which now connects all the chief towns with each other and unites Spain with France (two routes, Irun to Bayonne and Port-Bou to Perpignan) and with Portugal, has had the most beneficial effect upon agriculture, manufactures, and trade.

The centre of the Spanish broad-gauge railway system is Madrid, from which six lines will radiate, when the present scheme is finished.

The most important towns are also united with each other by means of *Telegraph-lines* (16,000 miles, with 35,700 miles of wire), with 923 stations. The Spanish *Postal Service* does not enjoy the best reputation; there are 2700 offices.

In consequence of the low level of popular education the telegraphs and post-office are so little used that in this respect Russia and Turkey alone are inferior to Spain. Including the colonial traffic the Spanish post-office transmits annually only about 119,000,000 communications.

A considerable proportion of the domestic trade is carried on by *Coasting-vessels*, as Spain possesses more than 116 harbours, on its two seas. Land transport of all kinds, even by rail, is exceedingly expensive.

The chief centres of the domestic trade are *Madrid*, Burgos, Oviedo, Vitoria, Saragossa, and Granada. Zafra and Ubeda have large cattle-markets; Cuenza and Bejar important wool-markets.

Foreign Trade.—The position of Spain, between two important seas, is very favourable for carrying on foreign trade, but at the same time it must not be overlooked that it is too remote from the centre of Europe to lie on any of the main routes of modern international commerce. The foreign trade of Spain has also suffered from the internal decay of the kingdom, and still more from the loss of its American colonies.

Spanish foreign trade is principally maritime, and is chiefly carried on with England and France. An important branch is the commerce with Cuba and the Philippine Islands, the last remnants of a once boundless colonial empire.

The most important Spanish ports are *Barcelona*, *Cadiz*, Santander, Alicante, *Malaga*, *Bilbao*, and Valencia; all the other harbours lag far behind.

Barcelona, the chief port of all, is the centre of the Spanish Mediterranean trade, as well as the leading mercantile city in the kingdom. Upwards of 6000 ships (chiefly Spanish), with an aggregate burden of 1,300,000 tons, enter this port annually. Barcelona stands in direct communication with Genoa, Marseilles, Hamburg (Sloman), and Havanna.

A very excellent artificial harbour has recently been opened near *Tarragona*.

Valencia and *Alicante* are the chief export harbours for the well-cultivated provinces of Valencia and Murcia.

Malaga, exporting wine and other southern produce, has risen to the position of second commercial town in Spain.

Cadiz is not only an important export harbour (sherry, sea-salt, and southern fruits) but also the terminus for the traffic between Spain and America, and the headquarters of several large lines of steamers. Its present inferiority to Barcelona is one of the consequences of the loss of the American colonies.

On the north coast *Santander* is the chief port, as the centre of the trade with Great Britain, France, and even with North America.

Bilbao is an important harbour for the Basque provinces.

The mountainous *Balearic* and *Pithyusae Islands* are well-cultivated, and export annually increasing quantities of oil, southern fruits, and wine.

In 1891, 19,248 ships, with a total burden of 11,646,000 tons, entered, and 18,202 ships, with 11,043,000, cleared at Spanish ports. The Spanish mercantile fleet contained 1679 vessels, of 615,000 tons aggregate burden.

IMPORTS AND EXPORTS.

The chief *Exports* are wine (nearly £12,000,000); iron ore, copper ore, lead, copper, and quicksilver (total £7,500,000); raisins, oranges, and other fruits (£1,500,000); olive-oil, esparto grass, wool, animals, salt (mostly sea-salt), cork and cork goods, grain and flour (in good years only). The total value of the exports varies between £25,000,000 and £35,000,000.

The chief *Imports* are cotton (£3,000,000), grain, flour, colonial produce and dye-stuffs from the colonies, tobacco from Cuba and Manila, coal, all kinds of woven fabrics from England, France, Switzerland, and the German Customs Union, metal goods of all kinds, machinery, fancy articles, etc. The total value of the imports is about £30,000,000.

Commerce has been much promoted by the political tranquillity of recent times, as well as by a more liberal customs system, and the introduction, about thirty years ago, of financial and mercantile companies, whose seats are in Madrid and Barcelona. Among the latter are the *Spanish National Bank* in Madrid, and the *General Credit Company* for Catalonia.

The standard of monetary value since 1871 has been the *Peseta*, = one franc or about 9½d. The metric system of weights and measures is now official, but even in the wholesale trade old measures and methods of reckoning money are sometimes met with, while they are still almost universal in retail trade.

FOREIGN POSSESSIONS.

Spain now possesses only a comparatively small fragment (167,500 sq. m., with 8,000,000 inhab.) of its formerly world-wide colonial empire, which embraced an area of 3,500,000 square miles. These ruins of the mighty fabric are now maintained in subjection by the mother-country through a strict military administration and the influence of the Roman Catholic clergy.

I. SPANISH POSSESSIONS IN AFRICA.

1. A few fortified points on the coast of Morocco, known as *Presidios*, and used as convict-settlements. The chief is **Ceuta**, which is a free port.

2. The **Canary Islands**, a fertile volcanic group of islands, with a total area of 2940 square miles and a population of 300,000. The chief islands are Canary; Teneriffe, with Santa

Cruz (10,000 inhab.), the capital and seat of the governor; Lanzarote; and the barren Ferro.

The production of wine ("vino seco") was formerly the chief resource of these islands, and a certain quantity is still produced and exported. Cochineal forms a more important export, though the use of aniline dyes has rendered this industry less profitable. Sugar is also grown with success. An industry of recent origin is the raising of tomatoes, potatoes, and other vegetables for the London market; while large quantities of bananas and other fruits are also exported.

Numerous visitors are now coming to these islands as a health resort.

3. Spain has declared a protectorate over the west coast between Cape Blanco and Cape Bojador, a tropical district including the western extremity of the Sahara Desert.

4. The Spanish possessions on the *Guinea* coast, from Benito to Muni (820 sq. m.; 68,000 inhab.), are among the most unhealthy districts on the entire coast of Africa, and thus all attempted settlements have failed. The most important Spanish possession there is the island of **Fernando Po.** The island of *Annobom* is also Spanish.

II. SPANISH POSSESSIONS IN ASIA.

The **Philippine**[1] and **Sulu Islands** form a group of 1500 large and small islands, of which about 400 are inhabited, embracing a total area of about 117,000 square miles, with 5,600,000 inhabitants.

The largest of these islands are *Luzon* or Manila, Mindanao, Panay, Palawan, Mindoro, Negros, Samar, Leyte, and Cebu or Zebu.

The overwhelming majority of the inhabitants belong to the Malay stock, but an aboriginal black population has also maintained itself alongside of these. Chinese and Chinese half-breeds number about 340,000; Europeans (mostly Spaniards) and half-breeds, about 8500.

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[1] Discovered by Magelhaens in 1521, and occupied by the Spaniards in 1571.

Manila is the political, ecclesiastical, and economical head of all these islands, and it is the seat of the captain-general, the archbishop, and all the larger firms. The captain-general exercises an almost wholly unrestricted power. For the clergy the Philippines are a veritable El Dorado, for wealth, influence, and reverence.

The Malays (Tagals) who dwell on the coast occupy a higher level of civilization than the Papuan "Negritos," who inhabit the interior. Christianity is professed by 3,000,000 of the natives; but the Spaniards are regarded with dislike.

The *Climate* is tropical and generally unhealthy for Europeans. Earthquakes and hurricanes are of frequent occurrence. This archipelago is in no whit inferior in natural wealth to the Sunda Islands, and might be as valuable to Spain as Java is to Holland, if only the resources were taken full advantage of. But hardly a tenth part of the thickly-wooded archipelago is cultivated, and the rich mineral deposits of gold, iron, coal, sulphur, etc., are still almost untouched.

The chief productions are *Rice* (eight sorts; surplus for export only in good years, more generally rice requires to be imported), *Sugar* (3,000,000 cwts.), *Coffee*, *Tobacco*, *Manila Hemp* (banana or plantain fibres, from which excellent ropes are made); gum copal, indigo, cocoa-nuts, dye-woods, sapan-wood, bèche-de-mer or trepang, tortoise-shell, mother-of-pearl, and hides.

Considerable quantities of nearly all these articles are exported. In 1891 sugar was exported to the value of £1,600,000, and hemp to the value of £2,400,000. Many millions of cigars are annually exported (in 1890 about 110,000 millions). The countries which take the largest shares of these goods are: America (sugar and hemp), Australia (where the sugar from the Philippines successfully competes with that from Mauritius), England (hemp, sugar, cigars and tobacco, and coffee), China and Japan (sapan-wood, coffee, indigo, and sugar).

The chief centre of trade in the Philippine group is *Manila* (165,000 inhab.), on the island of Luzon, which absorbs nearly the whole of the foreign trade. All the other islands send their produce to Manila, and receive thence in exchange European articles. The trade is not confined to the Spaniards, but is shared by Americans, English, and Germans, who export the natural productions of the islands in exchange for iron and steel goods, glass, pottery, and other manufactures.

Commerce has extended since 1871, when a more liberal customs system was introduced, and various concessions were made to foreigners. The foreign trade of this large colony represents an annual value of £5,000,000 in exports and of £4,000,000 in imports, a large proportion of both the export and the import trade being in British hands.

The Messageries steamers call regularly at Manila, on the magnificent bay of the same name. Steamers in the China trade also call regularly. Manila has telegraphic communication with Hongkong.

III. SPANISH POSSESSIONS IN AUSTRALASIA.

Spain possesses the **Marianne Islands,**[1] the **Caroline Islands,** and the **Pelew Islands,** embracing a total area of 1000 square miles, with 40,000 inhab., of whom only a few thousand are Spanish. These scantily-populated islands (numerous Tagal immigrants) are of little commercial importance.

The warm oceanic climate is not unhealthy for Europeans; the fertility of the well-watered islands is very great, but the use made of the rich soil is very scanty.

IV. SPANISH POSSESSIONS IN AMERICA.

The chief possessions of Spain in America are **Cuba** and **Porto Rico,** two of the Greater Antilles. The incapacity of the Spaniards to manage modern colonies is nowhere better illustrated than in these islands.

1. CUBA.

The island of Cuba[2] has an area of 46,000 square miles, and a population of 1,500,000.

About 1,000,000 of the people are whites; about 500,000 negroes, to whom the climate of the Antilles is singularly adapted; and 40,000 coolies. The aboriginal Indians were exterminated as early as 1600, and were replaced by negro slaves; but laws passed in 1870 and 1880 paved the way for the abolition of slavery, which took place in 1886.

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[1] Discovered by Magelhaens in 1521.

[2] Discovered by Columbus in 1492.

The *Climate* of Cuba, like that of all the West India Islands, is tropical; but it is favourably affected in the first place by the influence of the sea and the trade-winds, and in the second place by the considerable elevation of the island, which reaches the height of 7500 ft. in the Sierra Maestra on the south coast. Owing to these circumstances, Cuba on the one hand yields the same products as India or Java, while on the other hand it offers a healthy residence to Europeans. Here and there on the coast, it is true, yellow fever occurs; but, speaking generally, Europeans can live in Havanna as comfortably as in Seville, and the "Pearl of the Antilles" could easily support a population of 10,000,000. Its political condition is the reason that it does not now do so.

The government is in the hands of a captain-general, whose powers are almost unrestricted; all officials are Spaniards. The entire population is Roman Catholic, though other religions are tolerated. Education is scanty; and the feeling of animosity between the different races is very bitter.

The entire economical existence of Cuba hinges upon its plantations, cultivated chiefly by negroes and coolies, and forming the real source of its wealth. At present only about 10% of the area is said to be actually under cultivation.

The sugar-cane was introduced into Cuba in the 16th century, and the most important product of the island is *Sugar*, the manufacture of which now employs more hands and more machine-power than any other. The annual production fluctuates greatly according as the season happens to be good or bad, varying between 10,000,000 and 18,000,000 cwts. of sugar and molasses. Between 77% and 95% of the export goes to the United States.

The second place is occupied by *Tobacco*. Cuban tobacco, especially the varieties grown in the river-valleys of the west

(Vuelta de Abajo), is considered the finest in the world, and the cigars manufactured at Havanna have a higher reputation than any other (except similar cigars manufactured at the Floridan town of Key West). To meet the demand, Cuba itself imports large quantities of tobacco. In 1888 cigars were exported from Havanna to the value of upwards of £2,000,000. The tobacco-plant is indigenous to Cuba, its cultivation and manufacture are free, but a tax is placed upon its exportation.

The coffee-production of Cuba is of slight mercantile importance.

Timber of various kinds is obtained in Cuba, including the best fustic-wood in the world. Forests still cover 40% and pastures 32% of the surface, although the island also produces all kinds of tropical plants and fruits.

Honey and wax are almost the only animal products contributed to commerce by Cuba, although the breeding of domestic animals is by no means neglected.

Iron, *Copper*, and other minerals exist in Cuba, but as yet have been worked only to a small extent, though foreign capital is now being invested in them.

Increased attention in Cuba has been directed of late years to the *Manufactures*, in consequence of which the tobacco, sugar, rum, and chocolate factories, and still more the ship-building yards, have much improved.

The leading centre of trade is *Havanna* (200,000 inhab.), one of the largest and finest harbours in America, with room for 1000 ships, and also one of the leading commercial towns in the world, whose importance is continually on the increase, owing to its advantageous situation. In 1888, 1058 ships, with an aggregate burden of 1,266,000 tons (including 394 Spanish vessels, with 530,000 tons), entered this port.

Secondary centres of trade are Matanzas (87,000 inhab.), Puerto Principe, and San Jago de Cuba.

Regular steam communication is maintained with the great commercial capitals of the American Union, with Spain (Cadiz 18 days), France (St. Nazaire 20 days), Great Britain (Southampton), the Hanse Towns (22 days), and New York (5 days).

The *Exports* from Havanna in 1888 were of the value of nearly £6,000,000.

The chief *Imports* are butcher-meat, cod-fish, flour, rice, wine, manufactures, glass, machinery, etc. The customs-dues are very high, ranging from 15°/₀ to 20°/₀ *ad valorem.* The Spanish flag is favoured by differential rates.

The great bulk of Cuban trade is carried on with the United States (which head the lists of both exports and imports) and Great Britain; in the second rank stand South America, Spain, France, and the Hanse Towns. In Havanna itself a large proportion of the commerce is in the hands of Americans, English, and Germans.

A good deal has been done in recent times to promote internal traffic. Cuba contains a fair share of good roads, 1050 miles of railways, 2800 miles of telegraph-lines with 190 stations, and an active coasting-trade. It has a branch cable to the submarine telegraph between the West Indies and Europe.

2. PORTO RICO.

The mountainous island of Porto or Puerto Rico is the smallest of the Great Antilles. It embraces an area of 3630 square miles, and has a population of 731,000, of whom about 400,000 are whites and 300,000 free negroes. The *Climate* is tropical and moist, and the soil is very fertile. The latter is cultivated more commonly in small parcels than in large plantations, so that the abolition of slavery was not attended by any great disturbance to husbandry.

The principal productions are *Coffee*, *Sugar*, *Tobacco*, molasses, rum, and cotton. Cattle-rearing and mining are also carried on, though with less care than agriculture.

The capital and chief centre of trade is *San Juan de Puerto Rico*, a seaport with 20,000 inhabitants.

The foreign trade in 1885 had a total value of £1,800,000, of which £560,000 represented exports. The chief exports are coffee (400,000 cwts.; £240,000), sugar (1,600,000 cwts.; £240,000), and tobacco (70,000 cwts.; £48,000).

Spanish goods and Spanish ships are here also favoured by differential duties.

At the head of the government is a governor, appointed by the crown.

PORTUGAL.

SITUATION, BOUNDARIES, AREA.

The Kingdom of Portugal is situated between 37° and 42° N. lat., and between 6° 15′ and 9° 30′ W. long. It is bounded by the Atlantic Ocean and Spain, and has an area of 35,000 square miles, with a population of 4,300,000. The Azores and the Madeira group are not included in these figures.

The Portuguese are, like the Spanish, a mixed race. They are mostly Roman Catholics, and are on an even lower educational level than the Spanish, with whom they have many qualities in common, although the inhabitants of the two nations are hostile to each other.

PHYSICAL FEATURES AND CLIMATE.

The greater part of the country is mountainous, being occupied by the western slopes of the Spanish ranges. The *Sierra Estrella*, the continuation of the Castilian water-shed (Sierra de Guadarrama), rises to the height of 6500 ft.

Broadly speaking, the *Plains*, which are distinguished by great fertility, are found only on the west coast and along the rivers.

The *Climate* of Portugal is oceanic except in the eastern districts, which exhibit the characteristics of La Mancha, in New Castile. High degrees of temperature are registered only in the south, and the climate generally, owing to the neighbourhood of the sea, may be described as temperate. Lisbon has a mean temperature in January of 50°, and in July of 69·8° F. The *Rainfall* is considerable, especially in winter and spring. At Lisbon upwards of 39 inches fall annually.

The *Rivers*, Minho, Douro, Tagus, and Guadiana, are generally navigable as far as the Spanish frontier, and in the lower part of their courses even for large vessels. The Tagus is deep enough for sea-going ships for 90 miles, and the Douro as far as Oporto. The river-channels have not been effectively regulated for the purposes of navigation.

CHIEF TOWNS.

The chief towns are *Lisbon* (246,000 inhab.), which was the leading European port in the 16th century, and is still important; *Oporto* (106,000 inhab.), Braga (20,000 inhab.); Coimbra; *Setubal*; Evora; Elvas, *Faro*, and *Covilhao.*

NATURAL PRODUCTIONS.

The natural productions of Portugal are very much the same as those of Spain, and there is also a great similarity in the primitive methods of exploiting them adopted in the two countries.

1. **Agriculture** is confined to one-fifth of the area, so that, fertile as the country is, the requirements of the scanty population are not met. Flax is extensively grown in the north, and towards the south southern and other fruits, especially oranges, lemons, and olives.

Vine-growing, the most noted branch of Portuguese husbandry, is of great importance, particularly on the Douro, where the costly *Port Wine* is produced. In general, however, both the cultivation of the vines and the treatment of the wine are carried on in a negligent and antiquated fashion. Several of the best-situated vineyards in Portugal have been purchased by English speculators, in whose hands the quality of the wine has speedily improved. Judged by the quality of its wine, Portugal is one of the leading wine-countries in the world. About 88,000,000 gallons are annually produced.

2. **Live Stock.**—The chief domestic animals are, as in Spain, cattle, mules, asses, and swine in the north, *Sheep* (3,000,000) and bees in the centre; and goats in all parts of the country. The fisheries on the coast are highly productive.

3. **Minerals.**—The mining industry is in an even worse con-

dition than in Spain. Many mines in this richly metalliferous country are unused, and those that are worked are for the most part in the hands of foreigners. Very large quantities of salt, chiefly sea-salt[1] (at Setubal, 300,000 tons) are produced in Portugal, and much is exported.

MANUFACTURES.

In spite of numerous endeavours, the manufactures of Portugal cannot meet the domestic demand either in quantity or quality. Unfavourable commercial treaties, especially with Great Britain, have seriously hampered their development.

Lisbon, Oporto, Braga, and Covilhao are the chief manufacturing towns.

The chief *Manufactures* are linen, cotton, woollen, and silk goods; hats; leather; spirits made from sugar-cane; porcelain; tobacco; and ornaments. Ship-building has risen in importance within the last few years.

TRADE AND COMMERCE.

1. The **Domestic Trade** is much facilitated by the rivers; the roads have been improved and extended in late years, and *Railways* traverse the country. In 1891 there were 1340 miles of railway in operation, and 110 miles under construction. The chief lines are those from Lisbon to Caceres and Madrid; Lisbon to Badajos; Lisbon to Coimbra, Oporto, and Valencia; and Lisbon to Serpa.

The *Coasting-trade* is very active. Portugal has 3800 miles of *Telegraph-lines* and 3000 *Post-offices.*

2. The **Foreign Trade** is mainly maritime, and is for the most part in the hands of British merchants, who transact more than half of the total export and import business. Next in importance is the trade with Brazil, France, Spain, and the Portuguese colonies.

The chief emporia for the foreign trade are *Lisbon* and *Oporto.* In 1891, 6262 vessels, with an aggregate burden of

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[1] The Portuguese sea-salt ("salt of St. Yves") is reckoned the best in Europe.

5,544,000 tons, entered, and 6441, with 5,538,000, cleared at Portuguese ports in the foreign trade. The greatest proportion of the shipping was under the British flag. In the same year the Portuguese mercantile fleet comprised only 208 vessels (47 steamers), with a burden of 92,000 tons.

Regular shipping communication is maintained with very many important seaports, as the steamers of all lines plying to South America, Western Africa, the Mediterranean, and Eastern Asia touch at Lisbon, and in many cases at Oporto also. There is also regular communication with Madeira.

IMPORTS AND EXPORTS.

The chief *Imports* are English and French manufactures, colonial produce, grain, cotton, coal, metals; timber and fat cattle. In 1891 the total value was £10,000,000.[1]

The chief *Exports* are *wine* (£2,400,000, chiefly to England), *cork*, copper, fish, and *sea-salt*. The total value in 1891 was £6,300,000.

The custom-duties are high.

PORTUGUESE FOREIGN POSSESSIONS.

The foreign possessions of Portugal, like those of Spain, have dwindled very much in size from their former wide extent. The American possessions have all been lost; those in Asia and Africa have much shrunk, and what still remains Portuguese in these two continents is in every respect only the ruin of a once brilliant world-wide domain. Portugal neglected its other colonies for centuries, in order to devote all its attention to Brazil, which, however, was lost in 1822; so that the present condition of the remaining possessions is exceedingly backward. A peculiarity of these colonies is the fact that the Portuguese settlers frequently intermarry with native wives, thus giving birth to hybrid races (calling themselves, however, Portuguese), peculiarly adapted for life in the colonies, who monopolize the entire retail trade. The wholesale trade on the other hand is managed chiefly by foreigners.

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[1] In these sums 1 milreis is taken as equal to 4s.

The total area of the foreign possessions of Portugal is estimated at about 703,000 square miles, with a population of 5,000,000.

I. PORTUGUESE POSSESSIONS IN AFRICA.

1. The **Azores** (940 sq. m.; 270,000 inhab.) form three highly fertile archipelagoes in the Atlantic Ocean (between 25° and 31° 16′ w. long.), exporting grain, wine, *Oranges*, orchilla, honey, fat cattle, etc. They are also an important coaling and watering station for ships bound for Brazil, India, and the South Seas.

Angra on Terceira is the seat of government; but the best anchorage is off San Miguel.

2. The **Madeira Islands** (318 sq. m.; 134,000 inhab.) are also distinguished for their great fertility.

After the vine-disease in 1852 the formerly renowned wine-growing almost ceased, and the production of sugar and cochineal took its place. But increasing efforts to revive the lucrative cultivation of the Madeira grape have now met with some success; and wine-growing, for which the climate is singularly adapted, is once more the chief source of the wealth of Madeira.

The capital is *Funchal* (21,000 inhab.), well known as a health-resort.

Both the Azores and Madeira are included in Portugal for administrative purposes.

3. The **Cape Verde Islands** (1500 sq. m.; 100,000 inhab.) are productive only in rainy years. The chief productions besides orchilla, indigo, tortoise-shell, etc., is salt, obtained in large quantities from saline springs. *Santiago* is the largest island of the group.[1]

4. The possessions in **Senegambia** have an area of 25 square miles, and a population of 9000.[2]

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[1] The capital, Porto Praya, is situated on Santiago, but St. Vincent, with a good harbour and a telegraph-station, is commercially the most important island.—TR.

[2] Portuguese Senegambia is officially known as *Guiné Portugueza* or *Portuguese Guinea*. The capital is Bolamo, on an island of the Bissagos Archipelago. The trade is largely in the hands of French merchants, who export ground-nuts (to Marseilles), wax, coffee, cacao, and hides.—TR.

5. The islands of **St. Thomé** and **Principe** (*St. Thomas's* and *Prince's Islands*) in the Gulf of Guinea have an area of 360 square miles, and 18,000 inhabitants.[1]

6. **Angola** has an area of 312,500 square miles, and 2,000,000 inhabitants. The chief towns are Loanda, Ambriz, Benguela, and Mossamedes.[2]

7. **Mozambique**, on the east coast of Africa, comprises an area of 390,000 square miles, with 350,000 inhabitants. The chief towns are Mozambique, Quilimane, and Sofala.

All the Portuguese factories in Africa, which owed their former prosperity to the slave-trade, are now examples of utter decay. They are situated on shallow and unsafe anchorages, their climate is deadly, and the coast districts are often unfruitful and deserted. Of late years the Portuguese government has endeavoured to raise the value and the importance of the neglected settlements; and its efforts have been supported by the Portuguese half-breeds, who penetrate far into the interior of Africa as traders. The custom duties are very high.

II. PORTUGUESE POSSESSIONS IN ASIA.

1. **Goa** (Villa Nova de Goa), once the mistress of the Indian Ocean; **Daman** and **Diu** (together 1310 sq. m.; 500,000 inhab.) are situated in India.

2. The eastern half of the island of **Timor**, in the Malay Archipelago, with an area of 6350 square miles and 300,000 inhabitants, is under Portuguese rule.

3. The island and town of **Macao** (12 sq. m.; 60,000 inhab.), in China, also belong to Portugal.

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[1] Quinine and coffee are profitably cultivated in St. Thomé, which is perhaps the most flourishing of all the Portuguese colonies in Africa. The fortress of *São João de Ajuda*, on the coast of Dahomey, is placed under the same governor as these two islands.—TR.

[2] Coffee, india-rubber, cotton, and sugar are among the productions of Angola. The river Qwanza or Coanza is navigated by a service of trading steamboats, which can ascend it for nearly 250 miles. Dondo on this river, 200 miles from the sea, is an important centre of South-West African trade. The Quango or Coango, a tributary of the Congo, was recognized as the east boundary of Angola by the Berlin Conference, which also confirmed the Portuguese possession of Cabinda, at the mouth of the Loungé.—TR.

Goa, which exports rice and cotton, is the most valuable of these Asiatic possessions. Macao, which might have secured an important share of the Chinese trade, has been completely eclipsed by *Victoria*, founded by the British on the island of Hongkong. Macao is now only visited by coasting-vessels.

ITALY.

SITUATION, BOUNDARIES, AREA.

The Kingdom of Italy comprises an area of 115,750 square miles, with (1886) a population of 30,000,000. It is bounded on the east by the Adriatic Sea, on the south by the Ionian Sea, on the west by the Mediterranean, and on the north-west and north by France, Switzerland, and Austria-Hungary.

POPULATION.

Like the Spaniards and Portuguese, the Italians are a mixed race, formed in the course of centuries by the mingling of the early Italians (especially the Romans), Germans, Greeks, Albanians, French, Saracens, and Spaniards. But all these constituents have contributed to form a single people, displaying local peculiarities here and there, but broadly speaking to be regarded as a single homogeneous whole.

Italy is also homogeneous both in its language and in its religion, to an extent paralleled in few other European countries. Italian is spoken throughout the entire kingdom, although various dialects appear. At the most about 150,000 of the inhabitants are French, and 60,000 Albanians and Greeks, while there are 7000 Catalans in Sardinia. The German communities in the north are dying out. About 99·7% of the population are Roman Catholics. Besides these there are only 38,000 Jews in the large towns, and a few small Protestant communities, numbering 62,000 adherents, of whom 20,000 are Waldensians (in Piedmont).

In *Density* of population Italy is exceeded only by Belgium, Holland, and England. Some districts, as the environs of

Naples and Genoa, are among the most thickly populated parts of Europe. The densest population is found in Liguria (435 inhab. per sq. m.), the sparsest (72 per sq. m.) in Sardinia. The Italians increase at a more rapid rate than any other of the Latin races (between 1862 and 1886 nearly 5,000,000), a fact which explains the steady stream of emigration (between 1880 and 1886 nearly 1,000,000 emigrants), which is directed principally to South America and North Africa.

The *Education* of this highly gifted people has unfortunately sunk lower and lower during the last three centuries; and this neglect has reacted upon manufactures and agriculture, in which Italy was at one time the instructress of Europe. About 50% of the population are unable to read or write; the grossest ignorance prevails in Southern Italy and the islands of Sicily and Sardinia.

Great advances in regard to education have recently been made, however, the attendance at elementary schools having a good deal more than doubled during the last twenty-five years. Elementary education is by law compulsory on children between the ages of six and nine. Advanced education is provided for by numerous gymnasia and by 21 universities as well as various other institutions.

It must not be overlooked that there is a great difference between the northern and southern Italians, both in economical and intellectual matters, and that since the union of Italy great advances have been made in every department.

PHYSICAL FEATURES.

The kingdom of Italy, which is distinctly marked off by its position from the rest of Europe, is usually spoken of as consisting of Northern, Central, and Southern Italy. Geographically it falls into two parts, entirely different from each other orographically, climatically, and, as a consequence, in productions. One part, to the north, is continental; the other, to the south, consists of a peninsula and various islands.

The more continental portion of the Italian peninsula, the plain of the Po, is bordered on the west and north by the

Alps, while the peninsula proper is almost completely occupied by the Apennines, stretching through Central and Southern Italy, and finding their continuation in Sicily.

The Alps begin at the Gulf of Genoa, and stretch first to the west, then to the north, and finally to the east, presenting a very abrupt face towards the plain of the Po. Their principal divisions are:—

1. The *Ligurian Alps*, from Monte Schiavo to the Col di Tenda (6025 ft.).

2. The *Maritime Alps*, from the Col di Tenda to the Col d'Argentière, with summits rising to 10,695 ft.

3. The *Cottian Alps*, from the Col d'Argentière to the Pass of Mont Cenis, culminating in Monte Viso (12,615 ft.). The chief passes are those of Mont Genèvre 6100 ft.) and Mont Cenis (6830 ft.).

4. The *Graian Alps*, to the Pass of the Great St. Bernard. The highest summit is Mont Blanc (15,780 ft.); the chief passes those of the Little St. Bernard (7085 ft.) and the Great St. Bernard (8110 ft.).

5. The *Pennine Alps*, to the Simplon (6625 ft.); culminating in Mont Rosa (15,220 ft.). The Italian side of this chain, the crest of which is the highest (10,660 ft.) among the Alps, is very steep.

6. The *Lepontine* and *Grisons* (or *Rhætian*) *Alps*, belong only very partially to Italy. Important routes lead from that kingdom over the St. Gotthard, Bernardino, Splugen, and Maloja Passes, and over the Wormser Joch.

Farther to the south and east stretch the chains of the southern Limestone Alpine Zone; the Valtellina Alps (Adda-Oglio), and branches of the Ortler and Adamello group, the Alps of Trent and Cadore, and the Alps of Carniola and the Julian Alps.

The Apennines may be divided into three parts:—

1. The *Northern Apennines*, which touch the Ligurian Alps at Monte Schiavo, curve round the Gulf of Genoa and the Ligurian Sea to the source of the Tiber. They do not rise above 7220 ft. The chief passes are the Bocchetta, leading from Genoa to Alessandria, and the Pietra Mala, from Bologna to Florence.

2. The *Central Apennines*, beginning at the source of the Tiber, soon divide into several chains, forming the rugged mountain district of the Abruzzi, on the eastern verge of which is the Gran Sasso (9545 ft.), the highest peak of the Apennines. The Furlo Pass and the Pass of Serravalla (Ancona to Rome) are the principal passes.

3. The *Southern Apennines* stretch to the south-east from the Abruzzi to the north coast of the Gulf of Taranto, where they assume a southerly direction, and extend to Cape Spartavento, with summits rising to the height of 7355 ft. On the Apulian (eastern) side low ranges of hills extend from this main chain to Cape S. Maria di Leuca.

The rugged and infertile Apennines proper, which form the watershed, are bordered, especially on the western side, by lower and more productive mountain districts, collectively grouped under the name of the *Subapennine Region*.

On the west side also are situated the volcanoes, some of which are extinct (Albanian Mts.; Ciminian Forest), and some still active (Vesuvius, 4000 ft.; Phlegræan Fields).

The most extensive *Plain*, the fertile *Basin of the Po*, stretching between the Alps and the Apennines, is interrupted by the Monti Berici and the Euganæan Hills. This valley, at one time a bay of the Adriatic Sea, has been formed by the deposits of the streams from the Alps and Apennines. It is still steadily encroaching on the sea.

Among the other level tracts are the Tuscan, Roman (Campagna di Roma), Campanian, and Apulian plains.

The Italian *Islands* are also mountainous. *Sicily*, which is separated from the peninsula by the Straits of Messina, is traversed from east to west by a continuation of the Apennine chain. The massive Mount Etna (10,825 ft.), on the east coast, is the loftiest volcano in Europe. The greater part of the fertile but neglected *Sardinia* is also mountainous. The *Lipari Islands* are wholly volcanic in character.

RIVERS, LAKES, AND CANALS.

The Apennine peninsula is well watered, although it has almost no large rivers. The most important streams, the Po and the Adige, flow into the Adriatic Sea.

The *Po*, 400 miles in length, traverses the North Italian plain from west to east, receiving many tributaries from the Alps. The most important of these affluents flow through the famous Italian lakes; the Ticino through the Lago Maggiore, the Adda through the Lago di Como, the Oglio through the Lago d'Iseo, and the Mincia through the Lago di Garda. The Po becomes navigable at Turin, and below the junction of the Adda it is deep enough for considerable vessels and steamers.

The Adige enters Italy from Tyrol, and also flows eastwards to the Adriatic. The beds of both these rivers are constantly being elevated by the boulders and alluvial deposits brought down by the stream, so that embankments are necessary to protect the country from inundation.

The Brenta, Piave, and Tagliamento also enter the Adriatic Sea.

The Arno and *Tiber* flow into the Mediterranean Sea, which also receives a number of coast-streams (*e.g.* the Volturno), most of which, however, dry up in summer.

Besides those already mentioned, the largest *Lakes* are those of Lugano, Trasimeno, and Bolsena in Central Italy. The Lago di Fucino in Southern Italy has been drained.

The *Canal System* is so thoroughly developed in the basin of the Po, that the husbandman is almost independent of rain.

Almost all the canals are utilized for the cultivation of hay and rice. A large canal near Milan connects the Adda with the Ticino, the Naviglio Adigetto and the Canal Bianco unite the Po and Adige.

Canals also extend from the Arno to Leghorn and to the Tiber.

CLIMATE.

Italy owes its vaunted mild climate, with its constantly azure skies, to its southern and maritime situation, and to the lofty Alpine wall that shelters it on the north. There are, however, numerous gradations of climate between the north and south of the country. The winters in the valley of the Po are cold, and Italy, with its evergreen foliage, as it is pictured in the imagination of northern peoples, does not begin until we reach the south of the Apennines. Turin has a mean temperature in January of 33·2° F., and in July of 72·5° F.; Rome has 47·3° and 74·3° F.; Palermo has 52·7° and 75·2° F. Winter, in our sense of the word, is known only in the more elevated districts; the heat of summer is tempered by the cold winds from the Alps in the north, and the sea-winds in the peninsula and islands. Sicily has a climate resembling that of the north of Africa. Speaking generally, Italy lies within the zone of *Winter Rains.* The period from June to September is almost rainless. Most rain falls in the north and west; the greatest rainfalls being observed at Tolmezzo, to the north of Udine (94 inches), Udine (53 inches), and Genoa (53·5 inches).

The hot *Sirocco*, blowing from Africa, is prejudicial to health in Italy; while the notorious malaria (or "aria cattiva") is bred in the *Marshes* at the mouth of the Po, in the *Maremme* of Tuscany and the Roman Campagna, and in the *Pontine Marshes.* Attempts have recently been made, but with doubtful success, to purify this poisonous atmosphere by means of extensive plantations of eucalyptus.

DIVISIONS AND CHIEF TOWNS.

After numerous bloody wars, both foreign and civil, the entire Italian peninsula was united by the events of 1866 and

1870 to form a single constitutional kingdom, with its capital at *Rome.*

The country is divided for administrative purposes into 69 provinces; but in the following list the names of the old historic divisions are retained.

1. **Kingdom of Sardinia:**

(1) *Piedmont.—Turin* (253,000 inhab.; the old capital of the kingdom), Susa, Aosta, *Alessandria* (62,000 inhab.), Acqui Casale, Vercelli, Novara, Mondovi.

(2) *Liguria.—Genoa* (180,000 inhab.), Spezzia, the largest natural harbour in Europe.

(3) The *Island of Sardinia.—Cagliari* (36,000 inhab.), Sassari (36,000 inhab.).

2. **Lombardy and Venetia:**

Milan (322,000 inhab.), Lodi, Como, Chiavenna, Sondrio, Bergamo, *Brescia* (61,000 inhab.), Mantua, Cremona. *Venice* (133,000 inhab.), Chioggia, Adria, Padua (72,000 inhab.), Vicenza, Treviso, Udine, *Verona* (69,000 inhab.), Peschiera.

3. **Emilia:**

(1) *Parma.—Parma* (45,000 inhab.), Piacenza.

(2) *Modena.—Modena* (58,000 inhab.), Carrara, Reggio.

(3) *Romagna.—Bologna* (123,000 inhab.), Ravenna, Faenza.

4. **The Marks** (on the Adriatic Sea).—Pesaro, *Sinigaglia,* Ancona (48,000 inhab.), Urbino.

The Republic and town of **San Marino.**

5. **Umbria.**—Perugia, Spoleto.

6. **Tuscany.**—*Florence* (169,000 inhab.; the capital from 1865 to 1871), Lucca, *Pisa* (54,000 inhab.), Piombino, *Leghorn* (98,000 inhab.), *Siena* (25,000 inhab.), Arezzo.

The island of *Elba,* with Porto Ferrajo.

7. **The Papal States.**—*Rome* (300,000 inhab.), Civita Vecchia, Sutri, Viterbo.

8. **Naples and Sicily:**

(1) *Campania.—Naples* (494,000 inhab.), Castellamare, Nola, Gaeta, Capua, Caserta, Amalfi, Salerno.

In the Gulf of Naples lie the islands of *Procida*, *Ischia*, and *Capri*.

(2) *Abruzzi.*—Aquila, Teramo.

(3) *Apulia.*—Lecce, Tarento, Bari, Manfredonia, Foggia (40,000 inhab.), Brindisi.

(4) *Calabria.*—Reggio (on the Straits of Messina, 39,000 inhab.), Cosenza.

(5) The *Island of Sicily.*—*Palermo* (245,000 inhab.), Messina (126,000 inhab.), Catania (100,000 inhab.), Syracuse, Trapani, Girgenti, Caltanissetta, Castro Giovanni.

To the west of Sicily lie the *Aegatian Islands;* to the north the *Lipari Islands* (Lipari, Stromboli, etc.).

NATURAL PRODUCTIONS.

1. **Vegetable Kingdom.**—Husbandry, one of the chief resources of the inhabitants, is carried on with the greatest industry and intelligence in Venetia, Lombardy, Piedmont, Tuscany, and Emilia. In comparison with its condition in antiquity, Sicily is almost desert.

The agricultural population of Italy amounts to about 8,000,000 (less than one-third of the total population); and about 86°/$_0$ of the surface is productive. Owing to the difference of the climate, as well as of the land-laws, the Italian methods of cultivation are entirely different from those of northern Europe. The land is parcelled out in very small subdivisions; in the plains, where the fields are encircled by hedges of mulberries, olives, fruit-trees, and vines, spade-cultivation prevails; in the mountains terrace-cultivation is adopted. The soil everywhere requires artificial irrigation, but under that stimulus it bears several crops annually.

The productions of the valley of the Po and those of the peninsula are very different from each other, in consequence of the climatic differences.

In the plain of the Po, where a temperate climate prevails, the chief crops are *Maize*, *Rice* (3,880,000 qrs.), both in excess of the domestic demand, *Wheat* (below the domestic demand), *Flax* (800,000 cwts.), *Mulberries*, etc. The construction of the system of canals and embankments, required for the adequate irrigation of the soil, implied necessarily the command of a considerable capital, and thus most of the land is in the hands of aristocratic families, who have leased it out to larger and smaller tenants, who groan under heavy taxes[1] and a disadvantageous system of tenure ("mezzaria").

In the plains of Central and Southern Italy, and in the Sub-apennine Regions, a sub-tropical flora preponderates more and more distinctly as we go further south. Cereals are still successfully raised in large quantities, but they yield in importance to *Southern Fruits.* Oranges (the best in the north of Sicily), lemons (130 to 150 million lbs.), figs, almonds, carobs, chestnuts, pistachio-nuts, dates, etc., are here produced.

The cultivation of *Olives* is unsurpassed; larger quantities of that fruit are exported than of any of the others. Italy annually produces about 73,000,000 gallons of olive-oil.

Wine is produced in all parts of the country. For quantity (594,000,000 gals.) Italy ranks next to France; but in quality the Italian wines are generally light, and not adapted for keeping. Strong and valuable wine is grown on the volcanic soil of the southern provinces and of Sicily (Lacrimae Christi, Vino Greco, Marsala).

Other vegetable productions of Italy are tobacco; *Hemp* of good quality in Central and Southern Italy (Naples nearly 2,000,000 cwts.), saffron, and madder (Castellamare). The sugar-cane and the cotton-plant flourish in the extreme south and in Sicily.

The *Forests,* which cover 16°/₀ of the surface, have been much devastated, but the country possesses sufficient wood for its own needs. The Italian woods also yield abundance of valuable produce, such as tanners' bark, cork, fine woods (olive, oak, etc.), bast for mats, etc.

2. **Animal Kingdom.**—Very slight attention is paid to the breeding of the ordinary European domestic animals. Italy contains the lowest proportion in Europe of live stock per head of the population; but at the same time it must not be

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[1] The land-tax in Italy is 25 to 35°/₀.

forgotten that Italians consume very little butcher-meat. Of the 700,000 *Horses*, which number is not sufficient for the requirements of the country, the best are found in Naples. *Asses* number 500,000, *Mules* 250,000, the largest proportion being in Sicily and Sardinia. The finest *Sheep* (8,500,000) are found in Tuscany and Piedmont; the wool-production (15,400,000 lbs.) does not supply one-half of the consumption. Excellent *Cattle* (4,800,000) are bred in the northern districts. The Lombard plains are noted for their cheèse. *Goats* (2,000,000) are found all over the country; *Pigs* (1,200,000) chiefly in Central Italy.

The commercially most important member of the animal kingdom in Italy is the *Silk-worm*, which is reared in all parts of the country, but especially in Venetia, Lombardy, Piedmont, Calabria, and Sicily. Italy distances all other European countries in the extent of its silk industry, producing annually upwards of 5,000,000 lbs. of raw silk.

Poultry-farming and the export of eggs are important.

The *Fisheries*, which are actively carried on along the coasts, yield *Tunnies*, *Sardines*, mackerel, anchovies (Elba, Sardinia, Tuscany), *Eels*, and *Oysters* (Taranto). About 30,000 persons (10,000 boats) are engaged in this industry; but the consumption of fish in Italy maintains also a large import trade.

Coral-fishing, off the coasts of Sardinia, Corsica, and Africa, forms a unique industry. Some of the coral is exported.

3. **Mineral Kingdom.**—Italy is rich in useful minerals, though very poor in coal. This latter circumstance accounts for the scanty development of the mining industry. The chief minerals are sulphur, salt, iron, and marble.

Sulphur is produced chiefly in Sicily, where the largest mines are those at Girgenti. The total yield, the largest in the world, is 360,000 tons per annum.

The working of *Salt*, of which Italy produces more than sufficient for her own wants, is a government monopoly. About 330,000 tons (sea salt and mineral salt) are annually produced.

Iron is obtained chiefly from Elba, where the ore lies near the surface of the ground. The greater part of the annual yield (200,000 tons) is exported.

The *Marble* of Carrara is well known; there are marble quarries also at Massa and Seravezza.

Small quantities of lead, copper, zinc, silver, and borax are also obtained.

The most noted mineral springs are those of Acqui, Pisa, Lucca, Ischia, etc.

MANUFACTURES.

Italy has fallen from the high position it formerly held for centuries; once the instructress of most of the European states, it has now been left behind by nearly all. Only a few special branches of industry, carried on in particular localities, still retain a share of that world-wide reputation, which was formerly enjoyed by most Italian manufactures. But of late years a satisfactory improvement has been observed in this, as in every other economical department in Italy.

The chief difficulties with which the Italian manufacturing industry has to struggle are the want of coal, the absence of constant water-power, and the scarcity of capital. But, on the other hand, among its advantages, which give rise to high hopes for the future, are the dense population; the rare adroitness and dexterity of the Italian, which is combined with great frugality and an innate artistic sense; and, finally, the traditions of the former glories of Italian industry.

At present none of the wholesale manufactures are carried on in Italy on a scale large enough to cover the requirements of the country.

Textile Industries.—Of the Italian textile industries by far the most important is the *Silk Industry.* As already noted Italy produces more raw silk than any other European country. It possesses 5000 silk-winding establishments, while the spinning-factories contain nearly 2,000,000 spindles, on which the Italian workwomen spin not only native but also imported silk, with extraordinary skill and at very low prices.

Italy is also seeking to regain her old reputation for woven silk goods. Silk-weaving, carried on in all parts of the kingdom except Sardinia, now employs 12,000 looms; its chief seats are in Lombardy, Venetia, and Piedmont. Next to Lyons Milan is the most important silk-weaving city in Europe; Florence, Naples, and Palermo lag far behind. Genoa has long enjoyed a high reputation for *Velvet.*

The other branches of the textile industry are by no means in a condition to cover the domestic demand.

The *Cotton Industry* employs nearly 1,000,000 spindles, spinning chiefly coarser varieties, in Piedmont, Lombardy, and Venetia. The same provinces are the chief seats of the *Woollen* and *Linen Manufactures,* both of which have made a distinct advance in recent times, although the necessity of importation has not yet been obviated. *Lace* alone is exported.

Other Industries.—The manufacture of *Ropes* and *Cordage* is important, and the esteemed Italian produce in these departments plays a considerable part in international trade.

The Italian *Paper Industry* has received a considerable impetus recently through the utilization of the refuse of flax and hemp, and now maintains an export trade.

The *Metal Industries* are quite inadequate. As most of the Italian metals are exported in the form of ore, metal manufactures of all kinds require to be imported.

Venetian *Glass* (beads, paste, etc.) still maintains its supremacy in the markets of the world; but mirrors, window-glass, and bottles must be imported.

The *Leather Industry* has been actively and successfully carried on, owing to the abundance of tanning materials. Undressed leather and gloves are exported.

The principal *Chemical Manufactures* in Italy are oils, soap, essences, boracic acid (from the lagoons of Tuscany), tartaric and citric acid, spirits, artificial mineral water, and beer.

Ship-building is carried on at Spezzia, Leghorn, Sestri, Savona, Naples, etc., but by no means corresponds to the maritime importance of Italy.

Among the specialities of the Italian manufacturing industry are *Straw-plaiting* at Florence; Parmesan and Lodi *Cheese;* sausages (mortadella di Bologna; salami duri at Verona); maccaroni, sweetmeats, and candied fruits; *Alabaster* and *Marble Sculptures* at Naples, Leghorn, Pisa, and Rome; *Mosaics* at Rome, Florence, and Venice; *Plaster Ornaments* at Florence; *Stringed Instruments* and *Violin-strings* at Rome and Padua; *Parchment* at Rome; pottery at Vicenza; terra-cotta articles at Naples and in Sicily; coral at Naples, Leghorn, and Venice; cabinet work at Milan, Turin, and Chiavari.

TRADE AND COMMERCE.

Before the discovery of the route round the Cape, Italy was commercially the connecting link between Europe and Asia; and many of its cities rose in consequence to great opulence and prosperity. The discovery of the new sea-route entirely diverted this trade to the countries on the Atlantic Ocean, viz. Spain, Portugal, France, Holland, and England; while Italy, politically divided among many lords, and with no direct connection with the all-important ocean, gradually sank farther and farther from its former high estate. In recent times, however, the construction of the Alpine railways, and the opening of the Suez Canal has restored Italy to its old place as the intermediary between the East and the West. The Italians, a nation full of mercantile talent, are straining every nerve to thoroughly utilize this favourable circumstance, as well as to avail themselves of the splendid situation of their country, between the two great basins of the Mediterranean Sea, for carrying on the trade with the Levant and between Europe and the north of Africa.

1. **Domestic Trade.**—Italy possesses only 2000 miles of navigable water-ways (rivers, canals, and lakes), so that the great bulk of the modern domestic trade devolves upon the railways and roads.

In 1892 the country possessed about 8100 miles of *Railways*, uniting all the more important towns with each other. Many of these lines are constructed in the face of physical difficulties, which render them triumphs of engineering skill. The Italian railways belong wholly to government, though they are worked on lease by two private companies. They are divided into two great systems, the Adriatic and the Mediterranean.

There are about 21,000 miles of *High-roads* and provincial roads, in very good order.

As already hinted the *Coasting Traffic* is very energetically carried on, though not so much on the flat east coast, which has but few harbours. In 1891 Italian ports were entered by upwards of 125,000 vessels, with an aggregate burden of upwards of 23,000,000 tons, nearly 16,000,000 tons being Italian.

The chief centres of the domestic trade are Milan, Turin, Bologna, Florence, and Rome.

In 1891 the Italian *Telegraphs* had 22,500 miles of line, and 4658 stations. Submarine cables extend to Sardinia, Sicily, Corsica, Malta, and Corfu. In the same year the *Postal Service* forwarded 170,000,000 letters and post-cards by means of 5800 post-offices.

Extraordinary efforts have been made in the last few years to cope with the financial question; and the deficit has been met by straining the tax-paying capacity of the people to an enormous extent. The *Valuta*[1] has been established. Besides the national *Bank of Italy*, other banks, joint-stock companies, and insurance companies abound. There are numerous mutual benevolent societies and savings-banks in North Italy.

2. **Foreign Trade.**—The foreign trade of Italy is carried on in tolerably equal proportions by land and by sea; more than 60% of the imports arrive by sea, and more than 50% of the exports are despatched by land. The massive wall of the Alps bounds the overland traffic in all directions, although the numerous practicable passes (see p. 386) render this obstacle comparatively little of a hindrance.

Six railways cross the Alps from Italy, viz. two to France (from Genoa to Nice, and the Mont Cenis Railway, with a tunnel 7½ miles long); one to Switzerland (the St. Gotthard Railway, with a tunnel 9¼ miles long); and three to Austria

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[1] *i.e.* the relation betwixt the nominal and real value of coins, bank-notes, etc.—TR.

(from Verona to Innsbruck, from Udine to Tarvis, and from Cormons to Nabresina).

Most of the manufactured articles imported from the neighbouring states, and the native Italian exports, are conveyed by these railways, but the transit-trade with the Levant also follows these Alpine routes.

The Italian *Maritime Trade*, like that of Austria-Hungary, is principally carried on with Mediterranean ports. But the Italians are exerting themselves to secure a position among the great sea-faring countries of the world, and in particular to utilize to the full the opportunities offered by the Suez Canal. Including the islands Italy has a coast-line of nearly 3750 miles, with numerous excellent harbours.

The chief centres of the maritime trade are as follows:—

Genoa, the leading seaport of Italy, owes its rapid revival to the opening of the Suez Canal and the construction of the St. Gotthard Railway. It is now the nearest seaport not only for Switzerland, but also for the south of Germany. It is annually visited by upwards of 3,000,000 tons of shipping. The *Navigazione Generale Italiana*, owning 93 vessels (70,000 registered tons, and 24,000 horse-power), is the chief Genoese shipping company.

Genoa is regularly visited by the vessels of the Cunard Line, the General Steam Navigation Company, the Wilson Line, the Sloman (Hamburg), Nederland Maatschappij, etc. It is the principal Italian port for the import of petroleum, coal, codfish, wool, cotton, coffee, wheat, and sugar, and for the export of silk, olive-oil, southern fruits, and marble.

Naples, the second mercantile town and seaport of Italy, is visited by 2,000,000 tons of shipping, including vessels of the above-mentioned lines and of the Messageries Maritimes Its chief exports are southern fruits and sulphur; its chief imports colonial produce, coal, and manufactured goods.

Both Genoa and Naples possess exchanges.

Leghorn, the third seaport, is annually visited by 1,700,000 tons of shipping, and maintains an active trade with the Levant, France, Great Britain, and Germany.

Messina ranks as the fourth Italian seaport, with 1,500,000 tons of shipping annually. It is touched at by the same steamers as Naples, and exports chiefly Sicilian southern fruits, oil, and sulphur.

The next harbours in point of importance are Palermo, Venice, Ancona, Brindisi, and Catania. Brindisi owes its importance to being the terminus of the railway on the Adriatic coast, and on the route by the Mont Cenis tunnel to Egypt and India.

In 1891 the Italian mercantile fleet comprised 6732 vessels, with an aggregate burden of over 800,000 tons, including 290 steamers of 186,000 tons burden. In 1891 Italian ports were entered by 125,850 vessels, with an aggregate burden of 23,484,000 tons, of which 9257, with 7,500,000 tons, were foreign vessels.

IMPORTS AND EXPORTS.

The chief *Imports* are grain, cotton, coal, coffee, sugar, silk, wool, timber, fish, hides, yarn, petroleum, metal goods, machinery and manufactured goods. In 1885 the value was nearly £63,000,000; in 1891 £45,000,000.

The chief *Exports* are *silk*, *oil*, southern fruits, rice, wine, *sulphur*, sea-salt, sardines, cheese, maccaroni, *silk and velvet goods*, straw-plaiting, works of art in marble, alabaster, plaster, coral, and lava; glass-beads, etc. The total value is about £44,000,000.

The *Transit Trade* (£2,000,000 to £3,000,000) is chiefly concerned with Swiss manufactures and southern fruits from the north of Africa and the Levant.

Italy carries on most of its foreign trade with France (about (£30,000,000), Great Britain (£13,600,000), Austria-Hungary (£16,360,000), Germany (£9,440,000), Switzerland (£7,320,000), the United States of America (£4,280,000), and Russia.

ITALIAN COLONIES.

Italy is endeavouring to extend its trade and shipping by the acquisition of *Colonies*. In Africa it has obtained a strip of territory on the Red Sea coast, including *Massowah*, an important harbour for the trade with Abyssinia and the Soudan.

A large stretch of territory in this part of Africa is under Italian protection.

STATES ON THE LOWER DANUBE.

These states, which formerly belonged to Turkey, are **Roumania, Servia,** and **Bulgaria.** The two first are now entirely independent; the last is still nominally subject to the Porte.

I. ROUMANIA.

In 1877 the Principality of Roumania, formerly tributary to Turkey, proclaimed its independence, which was confirmed by the Congress of Berlin in 1878. In 1881 it proclaimed itself a constitutional hereditary monarchy, and was recognized as such by the European powers.

The Kingdom of Roumania consists of the former principalities of **Moldavia** and **Walachia** and of the **Dobrudja.** It is bounded by Austria-Hungary (Carpathians), Russia (the Pruth), the Black Sea, Bulgaria, and Servia (Danube), and has an area of 50,000 square miles, and 5,400,000 inhabitants. The *Density* of the population is about 105 per square mile.

Both in nationality and religion the people are very homogeneous. About 88% are Roumanians, *i.e.* Romanized Dacians, besides whom there are about 800,000 non-Roumanians, including about 400,000 Jews, 200,000 Gypsies, upwards of 80,000 Slavs, 40,000 Germans, 30,000 Magyars, 8000 Armenians, and 5000 Greeks, Italians, French, Turks, Russians, Circassians, Tartars, etc. The predominant confession is that of the Greek Church, with 4,500,000 adherents, in addition to whom there are 114,000 Roman Catholics, barely 14,000 Protestants (in the towns), besides Jews, Armenians, and Mahometans.

The social and intellectual condition of Roumania, as of all the states on the Lower Danube, is undergoing a complete revolution, and already great advances have been made towards better things. The population, however, is still divided into sharply distinguished classes. About 75% are peasants, who until 1864 lived in a miserable and ignorant condition of semi-serfdom; above these are the boyars, who generally enjoy a French education; and the clergy. The latter classes alone formerly possessed political rights, and were the sole owners of the land. Now, however, the peasantry are the proprietors of the soil, and a mercantile class is gradually growing up along with the trade and industry of the cities.

Under these circumstances it is a matter of course that the general level of education is very low. At present only about 10 °/₀ of the children of school-age attend school, though energetic attempts to remedy this evil are being made both by the government and by the people. Attention is also paid to higher education. But many decades must still pass before the harvest of these efforts can be reaped, and the neglect of centuries repaired.

PHYSICAL FEATURES AND CLIMATE.

The greater part of Roumania consists of a well-watered plain; only the west of Moldavia and the north of Walachia are occupied by the skirts of the Carpathians. These richly-wooded mountains have summits rising to the height of 8200 ft., and present steep slopes towards Walachia. The Dobrudja is a low granite table-land, partly covered with marsh and partly with steppes, though some parts of it are remarkably fertile.

The chief *River* of Roumania is the *Danube*, which describes a wide curve through the country, receiving on the left the Schyl or Chyl, Aluta, Ardjis, Jalomitza, Sereth, and Pruth, and discharging itself into the Black Sea by numerous mouths (Kilia, Sulina, and St. George's channels). Throughout its whole course in Roumania the Danube is an excellent, broad, and deep navigable stream, with a current gentle enough to permit the ascent even of sailing-ships. The only hindrances to navigation are the shallows at its mouths, and the Iron Gates on the Servian-Hungarian frontier. None of the tributaries, which in their upper courses are wild mountain torrents, are regulated for shipping; but the Pruth is navigable for steamers and the Sereth for rafts.

Marshes are frequently found on the banks of the rivers.

In spite of the proximity of the sea the climate of Roumania is thoroughly continental, because the country is quite open towards the north-east. While the heat in summer is often 100° F., in winter the mercury frequently sinks to − 4° F., so that the rivers are often thickly covered with ice for weeks at a time. The mean temperature in winter is 29° F. and in summer 72·5° F.; at Bucharest the mean temperature in Jan. is 38·3°, and in July 68° F.

CHIEF TOWNS.

1. In **Walachia.**—Bucharest (221,000 inhab.); Brahilov or Ibraila (28,000), regarded as a seaport; Georgevo (21,000 inhab.); Turn-Severin, Kalafat, Krajova, Ploësti.

2. In **Moldavia.**—Jassy (90,000 inhab.); Botushani; Galatz (80,000 inhab.), also a seaport; Sulina.

3. In the **Dobrudja.**—Tchernavoda, Kustendji.

NATURAL PRODUCTIONS AND MANUFACTURES.

Roumania is a true agricultural state, 75% of the population being dependent upon husbandry. The soil is extremely fertile, and the climate permits the cultivation of all the products of the temperate zone and even of rice, but the methods of tillage are still very primitive. Machinery, for which the level nature of the surface is peculiarly adapted, is used only on the larger estates. But, notwithstanding, the produce of the soil is so rich, that Roumania is entitled to be reckoned one of the granaries of Europe.

The chief crops are *Maize* (7,900,000 qrs.), the staple food of the people; wheat (2,750,000 qrs.), barley (2,100,000 qrs.), oats (680,000 qrs.), rye (680,000 qrs.): tobacco (4,400,000 lbs.), and wine (22,000,000 gals.),—all produced in excess of the demand.

The number of *Live Stock* is very large in proportion to the population; horses 500,000, cattle 3,000,000, sheep 5,000,000, pigs 1,500,000, goats 1,500,000.

The *Mineral Wealth* of the country appears to be very great;

silver, iron, lead, copper, coal, petroleum, and salt are all found, though only the two last-named are worked to any great extent.

The *Manufactures* are almost wholly undeveloped. The primitive requirements of the inhabitants are supplied by domestic and retail industries, but all finer manufactures have to be imported. Mills, distilleries, and tobacco-factories are the principal industrial establishments. All attempts to introduce complex manufactures have failed. The intense dislike of the people to factory-labour is the great impediment to the industrial development of Roumania.

TRADE AND COMMERCE.

The present government has done much to promote the **Domestic Trade** of Roumania. The Danube is navigated by the steamers of the "Erste Kaiserliche Königliche privat Donau-Dampfschiffahrts-Gesellschaft" and by Roumanian and Russian steamers, the Pruth by Roumanian and Russian steamers.

Railways, connecting the most important towns, have added enormously to the value of the land. In 1887 Roumania contained about 1500 miles of railways, of which all but 125 miles were worked by government. In 1886 the country possessed 3300 miles of *Telegraph-lines* (6500 miles of wire), and 274 telegraph-stations, which transmitted 1,250,000 messages. The 188 *Post-offices* forwarded 18,000,000 letters and post-cards and 500,000 parcels in the same year.

A few of the *Roads* are well constructed, but many are quite impassable in wet weather.

Roumania has adopted the French monetary system, the franc being named *leu* (pl. *lei;* the centime is *bani*). The weights and measures, however, are bewilderingly diverse.

Foreign Trade is carried on both by land and sea. Three lines of railway connect Roumania with Austria-Hungary (Czernowitz, Kronstadt, and Orsova), and one with Russia (Kiev). The most important branch of the foreign trade is that carried on by the Danube. The maritime trade of the country also issues almost entirely from the Danube ports, for the direct trade *viâ*

Kustendji is insignificant. The two principal harbours are Ibraila and Galatz, which are regularly visited by steamers of the Moss Steamship Company, the Austria-Hungarian Lloyd, the Messageries Maritimes, and the Westcott Line (Antwerp), besides Russian steamers from Odessa.

The regulated Sulina channel is neutral territory, and is under the sovereign control of the European Danube Commission, which has its seat at Giurgevo. The necessary works are supported by dues levied on the ships using the channel. In 1891 the vessels using this channel had a total burden of 1,512,000 tons, of which 990,000 tons were British. The Kilia channel has recently also been regulated by Russia. The trade and traffic on the Danube will no doubt largely increase when the impediment of the Iron Gates is removed.

The chief *Exports* are grain (maize, wheat, barley; in 1891 valued at £9,000,000), cattle, wool, hides, raw petroleum (to be refined in Galicia), and salt. The total value is about £11,000,000. The chief *Imports* are manufactured goods, especially metal goods (£3,000,000), clothing and woven fabrics (£7,500,000), glass and pottery, chemicals, timber, and wooden goods, colonial produce, coal, and refined petroleum (largely from the Caucasus). The total value (1891) is about £17,500,000.

The Roumanian foreign trade is carried on chiefly with Austria-Hungary (£8,400,000), Great Britain (£6,400,000), Germany (£2,400,000), France, Turkey, Bulgaria, Russia, and Greece.

Expensive freight and high customs are the chief hindrances to trade in Roumania.

II. BULGARIA.

Bulgaria was transformed by the Congress of Berlin (1878) from a Turkish vilayet into a principality, nominally tributary to Turkey, but practically almost independent. In Sept. 1885, by a *coup d'état*, the union of Eastern Roumelia with Bulgaria was proclaimed, and the Porte so far gave way as to appoint the Prince of Bulgaria to the position of governor-general of Eastern Roumelia.

Bulgaria embraces an area of 25,000 square miles, and has a population of 2,000,000, or about 80 per square mile; *Eastern Roumelia* has an area of 14,000 square miles and 1,000,000 inhabitants, or about 71 per square mile. The inhabitants are chiefly Bulgars, and belong mostly to the Greek Church. The Mahometans, who at one time numbered 700,000, are gradually leaving the country.

The Bulgarians are an industrious and frugal people, full of love for their country, which, now that it is freed from the oppression of Turkish rule, will certainly and rapidly develop its considerable natural resources. There is no aristocracy in Bulgaria; 85% of the population are peasants, all of whom are either free land-owners, or members of communes holding property, which is from time to time distributed for cultivation among the members. Efforts are being made by the institution of schools to improve the education of the people, which had been totally neglected by the Turks.

The boundary between Bulgaria and East Roumelia is formed by the Balkans (Stara Planina), which rise to the height of 4000 ft. This bleak range is crossed only by a few difficult passes, leading to the west and south (*e.g.* Trojan Pass, 4600 ft.; Shipka Pass, 3900 ft.), and by the Isker Valley.

The chief *River* and main artery of traffic is the *Danube*, the banks of which are much higher in Bulgaria than in Roumania. Part of Bulgaria also borders on the Black Sea.

The *Climate* is continental. The Balkan range forms a climatic boundary; its northern slopes resemble Roumania, and its southern slopes the north of Italy, in climate. The mean temperature of Sofia in January is 26·6° F., and in July 71·6° F.; the mercury ranges from −2° F. to 96·8° F.

The *Chief Towns* are:—

In **Bulgaria.**—*Sofia* (20,000 inhab.); Tirnova; the Danube ports of Widin, Nicopolis, Sistova, Rustchuk (26,000 inhab.), and Silistria; Varna (seaport); Shumla and Gabrovo.

In **Eastern Roumelia.**—*Philippopolis* (33,000 inhab.), chief town; Tatar Bazayik; Kasanlik; Eski Sagra; Slivno (a manufacturing town); and Burgas (a seaport).

PRODUCTIONS.

Even under the Turks the fertile soil produced more than the country required for its own use, notwithstanding that the methods of agriculture were two centuries old. The advance of civilization and the introduction of modern means of communication will undoubtedly much increase the productiveness. The soil yields *Grain* (especially maize and wheat), tobacco, wine, fruit; while the *Horses*, *Cattle*, and *Sheep* of Bulgaria are excellent. Agriculture and stock-farming divide the attention of the inhabitants almost equally; but *Mining* is hardly begun, although Bulgaria seems also rich in minerals.

The *Manufacturing* industry is still in its infancy, being represented chiefly by domestic and retail industries. Knives, carpets, woollen ribands ("gaitans"), and goats'-hair and cotton-stuffs are, however, also produced. The chief manufacturing towns are Gabrovo and Slivno.

TRADE AND COMMERCE.

The Danube is the main artery of traffic in Bulgaria. The above-mentioned Danube ports are regularly visited by the vessels of the Austrian-Danube Steamship Company, and by Russian and a few other steamers.

In Bulgaria proper the chief *Railways* are the lines from Rustchuk to Shumla and Varna, and the portion of the great railway from Belgrade to Constantinople *vià* Sofia, opened in August, 1888. This line also traverses Eastern Roumelia *vià* Philippopolis, and at Tirnova is joined by a branch from the seaport Bourgas. These railways bid fair to work a revolution in the entire oriental trade as well as in the whole development of the states of the Balkan peninsula. A railway from the Turkish seaport of Saloniki (the ancient Thessalonica) in the Archipelago to the main line has already been made, and other extensions have been planned. If all the plans are ever carried out Sofia will become the natural centre for the entire Balkan railway-system.

Roads were sadly neglected under Turkish rule, but now energetic steps towards their improvement are being taken.

In 1886 the *Postal Service* forwarded 2,500,000 communications through its 98 offices. In the same year the *Telegraph-lines* were 2500 miles in length; 610,000 messages were transmitted by the 98 stations.

Bulgaria has adopted the French monetary system, the franc being called *leva*, the centime *stotinki*.

The chief *Exports* are grain (over £2,000,000), animals and animal produce (hides, skins, tallow, wool, etc.), wine, timber, some woven fabrics, etc. The total value is £2,800,000.

The chief *Imports* are manufactures of all kinds, spirituous liquors, colonial produce, salt, coals, and petroleum. The total value is £3,200,000. One-third of the imports and exports pass through Varna, next in importance to which is Rustchuk. The other Danube ports, Sistova and Lom-Palanka, are next in order.

The foreign trade of Bulgaria is carried on principally with Austria-Hungary (50°/₀ of the imports, 25°/₀ of the exports), Great Britain (18°/₀ of the imports, 23°/₀ of the exports), Turkey, Roumania, Italia, France, Germany (12°/₀ of the imports), and Russia. The two last-named countries spare no pains to obtain a larger share of the Bulgarian trade.

III. SERVIA.

In 1878 the Congress of Berlin confirmed Servian independence; and in 1882 Servia proclaimed itself a constitutional hereditary monarchy.

The Kingdom of Servia has an area of 19,000 square miles, and a population (1886) of 2,000,000 or about 102 per square mile. Almost all the inhabitants are pure Serbs, and in religion Greek Christians, with the exception of about 15,000 Mahometans, 4000 Jews, and 4000 Roman Catholics.

The *Education* of this naturally-gifted people is well attended to; and there are advanced schools in Belgrade. There is no aristocratic class in the kingdom; and the peasantry are free proprietors of the soil.

The entire country is covered with *Mountains*, rising in the south to the height of 6500 ft., and accessible only by means of detached valleys. The chief *Rivers* are the Danube, the Save, with its tributary the Drina, and the Morava, with its tributary the Nishava.

The *Climate* is continental. In Belgrade the mean temperature in January is 33·2° F., and in July 67° F.; the winters among the mountains are very severe.

The chief towns are *Belgrade* (36,000 inhab.), Shabatz, Semendria, Posharevatz, Kragojevatz, Nish, Pirot, and Vranja. Only 10°/$_0$ of the population live in the towns.

NATURAL PRODUCTIONS AND MANUFACTURES.

The soil is very fertile, while the mountains are almost completely covered with forests of oaks and other trees. About 90°/$_0$ of the population are engaged in husbandry, which, however, is still carried on after very primitive methods. In spite of drawbacks, however, Servia produces more than sufficient for its own wants of cereals (1,720,000 qrs.), chiefly maize (680,000 qrs.), wheat (515,000 qrs.), barley (340,000 qrs.), rye, and oats; flax, tobacco, fruit (including large quantities of *Turkish Plums*, from which *Slivovitz*, a kind of spirit, is prepared). The forests supply excellent oak-timber. Attention has recently been more actively directed to wine-growing (*e.g.* at Negotin and Semendria).

The number of *Domestic Animals* is very large in proportion to the population. Servia contains 1,000,000 head of cattle, 3,500,000 sheep, and 1,700,000 pigs, so that it is able to export live stock. The fisheries on the Danube are valuable. (Caviare.)

Servia is rich in *Minerals*, but the defective means of communication retards their exploitation. An English company works some iron and copper mines at Maidanpek; but immense coal-fields still lie quite untouched.

Manufactures, in spite of high protective duties, have attained no high level, and all fine manufactured articles have to be imported. The domestic and other smaller industries are of course everywhere practised.

TRADE AND COMMERCE.

Domestic trade is promoted in Servia by good *Roads*, by the Danube, Save, and Drina, by 300 miles of *Railways*, by 1700 miles of *Telegraph-lines* with 114 stations, and by 54 *Postal Offices.*

The greater part of Servian foreign trade has for ages been carried on with Austria-Hungary, with which Servia is connected by various natural trade-routes, while difficulties lay in the way of its communication with all the other adjoining states and with the sea. The opening in 1888 of the two lines of railway, from Belgrade to Saloniki *viâ* Usküp, and from Belgrade to Constantinople *viâ* Pirot and Sofia, will probably work a revolution in this respect. These lines will not only attract to Servia an international transit-trade with the East, but it will enable that country to enter into direct commercial relations with Constantinople and still more with Saloniki.

The French monetary system has been adopted, the franc being called *dinar*, and the centime *para*. The old Servian weights and measures are, however, still in use.

The chief *Exports* are grain, live stock (pigs 250,000), dried plums, wine, and skins. The total value is £1,640,000. The chief *Imports* are all kinds of manufactured goods, colonial produce, and petroleum. The total value is about £1,680,000. About 60% of the foreign trade is carried on with Austria-Hungary; the remainder chiefly with Great Britain (*viâ* Saloniki), Germany, and France.

IV. MONTENEGRO.

The Principality of Montenegro[1] received from the Congress of Berlin in 1878 an addition of 2000 square miles with 116,000 inhabitants, so that its total area is 3700 square miles. with a population of 300,000. The people are pure Serbs, with the exception of 4000 Turks, and all belong to the Greek Church with the exception of 4000 Mahometans and as many

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[1] The native name is *Cherna Gora*, the Turkish *Kara Dagh*, both, like the Italian Montenegro, meaning "Black Mountain."—TR.

Roman Catholics. The Prince of Montenegro is almost absolute.

The acquisitions of territory on the Lake of Scutari and on the sea-coast have essentially altered the entire previous condition of Montenegro. The rugged, bare, poor Karst-district of Montenegro as it was, rising to the height of 8500 ft. above the sea-level, was doubtless admirably adapted to maintain its independence against the Turks, but it was quite unable to support even its extremely frugal and warlike population. The newly-acquired fertile districts, where grain, tobacco, vines, and even southern fruits flourish, will probably induce many of the free children of the "Black Mountain" to adopt agriculture instead of cattle-rearing, which was formerly their only employment when not engaged in war. In this way an extensive change in the customs, life, and development of the whole people is to be expected.

These considerations, and also the fact that Montenegro has now advanced to the sea-coast, will also exercise a very beneficent influence upon the trade of the country.

Hitherto the entire foreign trade of Montenegro has represented an annual turn-over of barely £330,000. Internal communication is hindered by the absence of roads.

The chief towns are Cettinje (2000 inhab.), Podgoritza, Antivari, and Dulcigno. The two last-named are seaports.

TURKEY.

The Turkish Empire embraces a total area of 1,600,000 square miles, with a population of 38,000,000, or about 24 inhabitants per square mile. It extends into three continents, and reaches from the mouth of the Euphrates to Tunis, and from the Nile cataracts to Hungary. This gigantic empire, however, owing to internal weakness and external attacks is now in a state of disintegration, which is only retarded by the mutual jealousies of its heirs. It drags on its existence, oppressed with debts and yet without sufficient intelligence to open the springs of its natural resources, too weak to live and too strong to die. It is divided into the following parts:—

1. **Turkey in Europe:**

(1) *Immediate Possessions*, 64,600 square miles, with 4,500,000 inhabitants.

(2) Tributary principality of *Bulgaria*, with *Eastern Roumelia*, see pp. 403–406.

(3) *Bosnia*, and the *Herzegovina*, see pp. 301–303.

2. **Turkey in Asia,** 742,000 square miles, with 16,000,000 inhabitants, including the tributary principality of *Samos* (185 sq. m.; 40,000 inhab.).

3. **African Possessions,** 781,250 square miles, with 8,000,000 inhabitants (exclusive of the Soudan).

(1) Protectorate of *Egypt*, 390,625 square miles, with 7,000,000 inhabitants.

(2) *Tripoli* and *Barca*, 390,625 square miles, with 1,000,000 inhabitants.

I. TURKEY IN EUROPE.

European Turkey, as already mentioned, embraces 64,600 square miles, and has a population of 4,500,000.

Thousands of Mahometans flocked into Turkey from the districts severed from that power in 1878, while on the other hand thousands of Christians quitted the present Turkish possessions, so that an accurate account of the present state of the population of Turkey is scarcely possible. Broadly speaking, Turkey contains about 1,500,000 Osmanli Turks, chiefly in the east or distributed among the leading strategic points, and about 1,000,000 Albanians, and as many Greeks; the remainder of the population are Armenians, Gypsies, Jews, Circassians, etc. All western peoples are grouped under the general name of *Franks*. The prevailing creed is Islam, next in importance to which is that of the Greek Church.

In previous centuries these national and religious differences lay quiet and dormant under the iron hand of the powerful Turkish government, but in the present century they have instigated the most sanguinary struggles and been the most potent causes of the decay of the empire. No satisfactory solution of the difficulty has yet been found. The Albanians, Bulgarians, and Greeks, both on the Continent and in Crete and other islands, are openly struggling for complete independence of the Porte, the power of which has so much declined that it would be quite unable to resist these attempts were it not assisted from without.

In spite of many excellent characteristics, the Turks, in contrast to the Arabs, have destroyed the earlier civilizations wherever they met them, without substituting any new civilization in their place. The whole history of the Balkan peninsula is an illustration of this fact. The Turks are completely enwrapped in the sleepy customs and opinions of the East, whereas the Albanians, Slavs, and Greeks in Turkey, though in many cases still at the lowest stage of civilization, yet retain the fresh vigour of children of nature. The stubborn Islam, the foundation and soul of the Ottoman empire, is totally incompatible with all modern progress; while the advances in civilization which the already emancipated peoples of the Lower Danube have made shows what they are capable of under good guidance.

PHYSICAL FEATURES AND CLIMATE.

Turkey shares the orographical characteristics of the whole Balkan peninsula. The mountains, generally speaking, stretch in parallel chains from north-west to south-east, often, however, interrupted by short transverse ranges, running from west to east, so that numerous mountain valleys, but no large plains, are formed. It is thus evident that none of the rivers of the Balkan peninsula have long courses; while the difficulty of politically uniting the various peoples is also apparent. A tolerably clear idea of the relations of the complex and to a great extent still unexplored mountain system of Turkey may be obtained by regarding it as divided into an eastern and a western half, separated by the valleys of the Vardar and the Morava. To the west of this dividing-line lie the Albanian-

Greek mountains, belonging to the Karst district, culminating in the Shar-Dagh (upwards of 9800 ft.) and Olympus (9840 ft.); to the east rise the Balkans and Rhodope mountains. The only portions of the Balkans now included in Turkey are the steep southern slopes to the north of Eastern Roumelia, with summits rising to the height of 7870 ft.; the Rhodope or Despoto Mountains reach their greatest elevation in the Rhilo-Dagh (9000 ft.), to the west. The Balkan and Despoto-Dagh are separated by the fertile plain of the Maritza. Mount Athos, with its Greek convent-republic, rises steeply and almost isolated, from the sea, to the height of nearly 6560 ft. The Turkish islands are all mountainous; in Crete several points (Mount Ida) reach the height of 7840 ft.

Turkey is not rich in *Rivers*, as already indicated. The chief are the Maritza (partly navigable), Struma, and Vardar (flowing into the Ægean Sea), and the Drin (flowing into the Adriatic Sea). The *Coasts* have valuable features; the Ægean coast especially abounds in bays and excellent harbours, and the Adriatic coast, though less irregular, also has good harbours. The Black Sea coast, on the other hand, is flat and poor in havens.

The *Climate* varies very much in different districts. The mildest regions are situated on the Ægean Sea, where in the valleys open to the south, the south European flora, including even cotton, flourishes. (Rose-gardens of Kasanlik.) The mountainous regions of the interior, more cut off from the influence of the sea-air, have, on the other hand, a very extreme climate; cold and snowy winters are followed by summers so hot that even on the loftiest summits the snow melts. At Constantinople the mean temperature in January is 42·8° F., and in July 72·5° F.; at Serajevo, on the other hand, the temperature in January is 26° F., and in July 70·7° F., while the extremes are 102° and 3° F.

DIVISIONS AND CHIEF TOWNS.

The Sultan (Padishah), as the successor of the Prophet, unites all secular and ecclesiastical authority in his own person. His rule is absolute, subject to the limitations imposed by the

Koran and by custom, while, at the same time, he is not able to escape the interference of the western powers, even in questions of domestic government.

The empire is divided for administrative purposes into vilayets or departments, each under a vali or governor. The independence of these officers often borders upon autocracy. The circumstance that the state has been unable for years to pay its officials regularly has been a fertile source of evils.

Eastern Roumelia, even before its union with Bulgaria, formed an exception, as since the Berlin Treaty in 1878 it constituted an *Autonomous Province*, under a Christian governor, though the latter was immediately subject to the Sublime Porte.

1. *Thrace* or *Roumelia.—Constantinople* or *Stamboul* (including Pera and Galata, 874,000 inhab. in 1885), Adrianople (60,000 inhab.), Gallipoli, Rodosto, Enos.

2. *Macedonia.* — *Saloniki* (70,000 inhab.), Kavala, Seres, Usküp, Bitolia or Monastir.

3. *Albania.* —Prisrend (35,000 inhab.), Scutari, Janina, Durazzo, and Prevesa.

4. *Islands.—Crete* (3360 sq. m., with 300,000 inhab., chiefly Greeks) is an autonomous province, like Eastern Roumelia, with the towns of Megalo Kastro (Candia, 15,000 inhab.) and Canea. In the Ægean Sea are *Samothrace*, *Imbros*, and *Thasos.*

NATURAL PRODUCTIONS.

The provinces still under Turkish rule are extremely fertile, with the exception of the western "Karst" district, which is naturally arid. The climate is of a character to permit of the cultivation of all central and southern European plants in the richest profusion, and, in a word, Turkey might easily be one of the wealthiest countries on the Continent, instead of being, as at present, one of the poorest. The causes of its miserable condition are the unfavourable division of the soil, the oppressive taxation, which consumes one-third of the harvests, the wretched government, the absence of roads, and above all the degraded standard of civilization to which the Turkish rule has gradually reduced the people.

1. **Agriculture.**—Forestry is entirely unknown in Turkey. Forests have been preserved only in those districts where the want of roads has made their destruction difficult, as in Bulgaria, Macedonia, and Bosnia; elsewhere wide mountain tracts are perfectly bare and are used for pasturage. The great ecclesiastical estates ("vakuf") are farmed in as primitive a fashion as the humblest peasant's diminutive holding; manure is, for example, almost never applied to the soil. That in spite of all these drawbacks the soil is able to produce more than sufficient to meet the wants of the country, is proof enough of the fertility and of the capabilities of these lands.

The chief agricultural productions are grain (chiefly maize and wheat), exported to the value of £1,200,000; wine, of poor quality, owing to indifferent care bestowed on its manufacture, fruit, oil, roses, tobacco, flax, and cotton.

2. **Live Stock.**—Stock-farming, which forms the chief occupation of the inhabitants of the central and western parts of the empire, more than meets the requirements of the country, though little is done to improve the breeds of cattle. The small but sturdy Turkish horses are used for riding and as sumpter-animals; buffaloes for draught-purposes. Goats' flesh and mutton are the principal butchers' meats consumed in Turkey, while wool is exported to the value of £960,000, chiefly from Albania. The productive collection of leeches, in Macedonia and Albania, is a government monopoly. Bees and silk-worms are reared with profit.

3. **Minerals.**—Mining is practically not carried on at all, although the country is very rich in ores. Marble is obtained from some of the islands; red clay from Stalimene.

MANUFACTURES.

Manufactures in Turkey are poorly represented by various domestic industries and by a few languid retail industries, conducted in an antiquated, expensive, and unpractical manner. Even the few articles in which Turkey formerly claimed preeminence (*e.g.* Turkey leather, certain silk fabrics, carpets, Turkish yarns, etc.), can no longer compete in their own home with the produce of west European factories. Numerous attempts to establish factories with western capital in order to utilize the raw produce of the country have all been wrecked, owing to the pasha-system of government and the religious fanaticism of the inhabitants. Constantinople and Saloniki still retain a few steam-mills, silk-factories, and a factory for fezes. The attar of roses, prepared to the south of the Balkans, is a specialty of Turkey.

The above facts must make it evident that Turkey is an important market for the manufactures of Western Europe, for which it pays with its natural productions.

TRADE AND COMMERCE.

The Turks, in complete contrast to the Arabs, are entirely devoid of the trading spirit; so that the greater part of the trade of Turkey is in the hands of foreigners—Greeks, Jews, Armenians, and Franks, and is principally carried on by sea. The same deficiency is probably also the cause why the Turkish government has done so little to promote trade and industry, especially in the matter of providing means of communication.

The *Domestic Trade* is in a worse condition in Turkey than in any other country in Europe.

Navigable Rivers are not found, and the *Roads* are scarcely worthy of the name, as they are used chiefly by sumpter-animals. The *Postal Service* (in 1886, 804 offices), which is undertaken in the interior by mounted Tartars, is so unsafe that most of the larger countries (*e.g.* Austria-Hungary, Russia, Germany, France, Great Britain, and Italy) have organized posts for themselves in connection with their consulates. All the important towns are connected with each other by *Telegraph-lines* (17,000 miles; 233 stations), but only messages in Turkish are transmitted by the inland lines.

These evils, which sufficiently explain the dearness of freight, are intensified by the constant agitations in some of the provinces and the extortions of the officials. (Bakshish.)

The hope of improving this state of affairs and of unsealing the wealth of this land centres in the completion of a Turkish

Railway System, steps towards which have recently been taken. The junction-routes to connect the Turkish railways with the Servian and Bulgarian lines were completed and opened in 1888,[1] and extensions have since been carried out, or are in progress. Railways as above-mentioned run from Constantinople to Adrianople, Sofia, Bourgas, etc.; and from Saloniki to Usküp, and north to Belgrade. From Scutari, across the Bosphorus, an important railway runs into Asia Minor.

The completion of the Turkish railway-system will probably entirely transform the manufacturing and commercial condition of the Balkan peninsula. The railway from Saloniki to Belgrade and Vienna will probably become the most important, for not only will it form part of the great international routes from London and Hamburg to Suez, but Saloniki itself is the key of the commerce of the central Balkan lands as far north as the Danube and Save.

Ever since the days of antiquity the *Maritime Trade* has been most active on the naturally-favoured south coast. Foreign trade is almost entirely concentrated in the two seaports of *Constantinople* and *Saloniki*. *Constantinople*, situated at the southern end of the Bosphorus, with an excellent harbour on the "Golden Horn," is one of these towns whose geographical position renders them important centres of international trade, under all governments and in all vicissitudes of fate. This truly oriental city, with its bazaars, khans, etc., is an agent for the trade of two continents, and the chief emporium of the Levant. In 1891–2 its port was entered by 26,128 vessels (including coasting-craft) with an aggregate capacity of 9,388,000 tons,[2] 4733 of which (with 5,261,617 tons) were steamers. Constantinople is regularly visited by the steamers of the Cunard, Wilson, Moss, and Papayanni lines, the Austria-Hungarian Lloyd, Navigazione Generale, Russian Steamship Co. (Odessa), Messageries Maritimes, Neederland'sche Stoomboot Maatschappij, and Sloman and Co.

Much of the produce of Asia Minor is exported *viâ* Constantinople.

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[1] See pp. 405 and 408.—TR.

[2] Over half the tonnage is British.

Saloniki, with a large and secure harbour, at the head of the Gulf of Saloniki, was visited in 1885 by nearly 4300 vessels, with an aggregate burden of 600,000 tons, of which 511 were steamers. Nearly all the steamship companies, whose vessels ply to Constantinople, touch also at Saloniki.

The principal Turkish seaport on the Adriatic coast is *Durazzo*.

The chief *Exports* are grain, wool, skins, silk, tobacco, wine, southern fruits, and gall-nuts; attar of roses, leather, and carpets.

The chief *Imports* are manufactures of all kinds (including cotton stuffs, cloth and woollen fabrics, velvet, metal goods of all kinds, glass, porcelain, watches, paper, mirrors, furniture, hardware, meerschaum and amber goods), coffee, sugar, rice, oil, colonial produce, coal, petroleum, etc.

The imports in 1891 were valued at £23,000,000; the exports at £12,800,000.

The financial condition of Turkey is notoriously miserable.

The old Turkish weights and measures and coinage are still commonly used in trade, though theoretically the metric system was introduced in 1871.

Greek, Persian, Servian, Lingua Franca, and French are media of communication in commerce, as well as Turkish.

The interests of foreign merchants and states are protected by *Consulates*, which exercise legal jurisdiction over the subjects of their respective countries.

II. TURKEY IN ASIA.

1. ASIATIC TURKEY PROPER.

AREA AND POPULATION.

Asiatic Turkey proper has an area of 742,000 square miles and 16,000,000 inhabitants. The population is by no means homogeneous, although the Turkish element ($\frac{2}{3}$ of the whole) is in the ascendency. *Turks* are most numerous in the interior of Asia Minor; they are somewhat thinly scattered over the rest of the empire; *Greeks* (1,000,000) dwell on the coasts, especially on the west coast of Asia Minor; *Kurds* and *Armenians* inhabit the north-east, though the latter are met with as merchants all over the east as far as Singapore, and in scattered communities in Europe as far west as Vienna; the south is occupied by the *Syrians*, a mixed race compounded of Assyrians, Persians, Phœnicians, Romans, Turks, and Arabs, though the last-named constituent has completely dictated the character of the whole; finally must be reckoned the pure *Arabs* and about 80,000 *Jews*. The natives of western Europe, who live principally in the seaports, are called *Franks*.

The disintegration of the Turkish empire is much less perceptible in Asia than in Europe, for the influence of government is as yet much greater in the former; but even in Asia the efforts of the different nationalities to effect a separation make themselves felt, and one may say that the empire is held together more through the influence of the common belief in Mahometanism than by the strength of the government.

The total incapacity of the Turks to utilize the advantages of wealthy countries and to maintain them in prosperity is as apparent in Asia as in Europe. Districts like Anatolia and Mesopotamia, which in antiquity and even under the caliphs were among the most productive in the known world, present to-day the picture of ruin and poverty. All attempts at improvement are foiled by the indolence and mismanagement of the Turks. The Greeks and Armenians devote attention to the extension of popular education; but among the Turks in both continents mental instruction is confined to the study of the Koran and to learning to write; but even this scanty culture is enjoyed by few, for the priesthood are opposed to general education.

PHYSICAL FEATURES AND CLIMATE.

Turkey in Asia is orographically divided into four principal parts:—1. The mountains of Armenia, averaging 6550 ft. in height, with numerous volcanic chains and lofty summits upwards of 16,000 ft. in height (Ararat 16,900 ft.). 2. The table-land of Asia Minor (3280–4900 ft.), partly covered with steppes; in the interior begins the range of Antitaurus (11,700 ft.), which stretches to the south coast, and is then continued along the sea-coast under the name of the Taurus Mountains. 3. The highlands of Syria, which assume a mountainous character on the western edge, and run parallel to the sea in the two parallel chains of Lebanon and Anti-Lebanon (9800 ft.). 4. The plain of Mesopotamia, on the banks of the Euphrates and Tigris.

The *Coast-line* is most favourable on the west of Asia Minor, where the sea pierces far into the land, forming numerous sheltered bays. The abrupt coasts on the north and south have very few harbours; the coast on the Persian Gulf is remarkably flat.

The principal rivers are the saline *Kizil-Irmak* in Anatolia, and the *Euphrates* and *Tigris*, which unite to form the Shat-el-Arab and fall into the Persian Gulf.

The principal lakes are the Dead Sea (1290 ft. below the Mediterranean), and Lake Van in Kurdistan.

The *Canals* in Mesopotamia, many of which are highly ingenious constructions, date mostly from antiquity; few, however, are in a state of repair.

The *Climate* varies, though it is predominantly warm. The coldest districts are in the Armenian mountains, where snow often falls from October till April; the mildest districts are in the islands and on the coasts. A general idea of the climate may be gleaned from the following details of winter and summer mean temperature:—At Trebizond 48° F. and 72·5° F.; Smyrna, 48·5° and 78·8° F.; Jerusalem, 49·5° and 73·7° F.; Bagdad 49·5° and 93° F. The most fertile districts are the terraces on the verge of the mountains, and some of the well-watered valleys. The main highlands themselves are generally arid and barren, sometimes covered with steppes, suffering from as hot and dry a climate as Africa.

DIVISIONS AND CHIEF TOWNS.

1. *Asia Minor* (Anatolia, Levant).—On the west coast: *Smyrna* (186,000 inhab.), Manissa, Aidin, *Brussa* (37,000 inhab.),

Scutari. On the Black Sea: Sinub or Sinope, Samsûn, *Trebizond* (Trapezunt, 32,000 inhab.). On the south coast: Tarsus. In the interior: Kutaya and Eskisher (to the south-east of Brussa), Angora, Konieh, Kaisarieh (60,000 inhab.).

Islands.—*Rhodes* and Symi, Kos (Stanko), Nikaria, Patmos, Samos or Syssam, Skios (Chios), Lesbos (Mitylene), Tenedos (near the Hellespont).

2. *Syria and Palestine.*—*Aleppo* (Haleb, 70,000 inhab.), Latakia (Ladikieh), *Beirût* (70,000 inhab.), Said, *Acre*, Jaffa—all on the coast of the Mediterranean; Hamah (south of Aleppo), *Damascus* (150,000 inhab.), *Jerusalem* (34,000 inhab.), Hebron.

3. *Armenia.*—*Erzerûm* (60,000 inhab.), *Bajazid.*

4. *Kurdistan.*—*Diarbekir* (40,000 inhab.) on the Tigris, Van.

5. *Mesopotamia.*—(1) *El Jezireh:* Urfa (formerly Edessa), *Mossul* (40,000 inhab.); (2) *Irak Arabi: Bagdad* (100,000 inhab.) on the Tigris, *Bassora* (Basra, 20,000 inhab., at one time 150,000 inhab.).

Most of the towns present a picturesque appearance from without, but within are filthy and ruinous. The Franks and Greeks almost invariably inhabit quarters of their own.

NATURAL PRODUCTIONS.

1. **Agriculture.**—The ancient intelligent methods of agriculture in Asiatic Turkey have vanished in the general decline of civilization; and the present rich yield of the soil is due simply to the fertility of the ground, and in no way to the exertions of the inhabitants. For hundreds of years, however, lands at one time fertile have been turning into deserts or swamps. The Turkish population cling to antiquated methods of husbandry, but the Greeks are in this department alive to modern improvements.

The most important products of the soil are grain, *Southern Fruits*, universally grown in the plains and in the islands (the raisins, figs, olives, pomegranates, etc., of the Levant are among the finest in the world); gall-nuts; plums, peaches, and other *Fruits* in the maritime provinces and the islands; *Tobacco* of excellent quality in the neighbourhood of Latakia and on the coasts; poppies for *Opium; Wine* in Rhodes, Chios, Lebanon, and near Smyrna and Brussa; *Cotton* of good quality is universally grown; *Madder* (alizari) in Anatolia; *Hemp* and *Flax* in Anatolia and Syria; saffron, yellow-berries (or Avignon-berries), frankincense, mastic, *Roses* (abundant in the neighbourhood of Damascus); numerous medicinal herbs. Extensive *Forests* exist in various districts, more especially in the northern coast regions of Asia Minor. The uplands are in many parts well provided with pastures, but often barren.

2. **Live Stock.**—The extensive pastures maintain a considerable number of domestic animals. The Turks, Kurds, and Arabs rear *Horses* little inferior to the Arab breed, *Camels,* cattle, mules, and asses; the Greeks devote more attention to sheep and goats, including the Angora or mohair goat, yielding the valuable mohair or camels' hair.

Silk-worms are extensively reared in Anatolia and Syria, and annually produce about 17,600,000 lbs. of raw silk.

Bee-keeping flourishes on the islands, which export wax and honey.

Large quantities of valuable *Sponges* are fished off the coasts of the mainland and islands.

3. **Minerals.**—Asiatic Turkey is well endowed with minerals, but its riches lie practically unused. Though there are silver, copper, iron, and coal mines, and though both rock-salt and sea-salt are found, the whole mining industry is on a very low level, while means of transport are almost entirely absent. The only important branch is the winning of *Meerschaum* in Anatolia (near Eskisher); but sulphur, Lemnian earth, naphtha, asphalt, marble, etc., are also obtained.

MANUFACTURES.

The manufacturing industry of the Levant, at one time highly prosperous, and in many branches carried on on a large scale, has been almost completely overthrown by European competition. In Diarbekir, for example, barely 50 silk-looms are at work where formerly there were thousands, while the famous Damascus blades have lost all their special excellence, and are now superseded by European goods.

The *Silk Fabrics* of Damascus, Brussa, Bagdad, and Aleppo enjoy a higher reputation and are more in demand, though only in the East. *Cotton Goods* (mostly of a coarse character) are made in Damascus, Smyrna, and Diarbekir; *Shawls* and *Leather* (Turkey leather) in Damascus, Bagdad, and Diarbekir.

The craftsmen of Asia Minor have retained their ancient reputation for dyed goods and embroidery. The carpets of Smyrna are eagerly sought both in the East and in Europe.

Filigree work is almost the only *Metal-work* now produced; all other metal industries have yielded to European competition. The seal-cutting of Diarbekir is noteworthy, on account of the importance of seals in the East.

TRADE AND COMMERCE.

The **Foreign Trade** of the Levant far excels the domestic trade in extent, though it has lost the great importance which it at one time possessed. This trade is almost exclusively carried on by foreigners, chiefly English, Austrians, Germans, French, and Americans.[1] The Turks, who, as we have said, are entirely devoid of mercantile talent, do nothing to turn to account the great wealth of their luxuriantly fertile country.

The chief harbours are as follows:—

(1) On the Black Sea.—*Trebizond* (Trapezunt), the chief port on the coast, rose from its ruins into importance in consequence of the Russian proclamation in 1832, forbidding the transit of European goods through Russian territory. This town then became the leading emporium for the trade with West Central Asia; it is the only port from which goods can be transported without Russian control to Persia and the rest of West Central Asia. Trebizond is thus the leading emporium for Asia Minor and Persia, carrying on trade with these countries by means of extensive and frequent caravans. It is a terminus for the steamers of the Messageries Maritime, Austria-Hungarian Lloyd, the Dutch Stoomboot Maatschappij, and the

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[1] The Turkish harbours in the Levant are called *Escales*, because European ships touch at them in regular order, like one ascending the rungs of a ladder.

Russian Odessa Company, and for various British and Turkish steamer-lines. In 1886 the port was entered by 1570 vessels (423 steamers), with an aggregate burden of 446,000 tons. Trebizond would again sink into the position of an unimportant seaport if the Russians were to permit the transmission of foreign goods by the Caucasus railway. Sinub or Sinope, Samsûn, and Kerasûnda are secondary ports.

(2) In Asia Minor (west and south coasts).—The chief port is *Smyrna*, the "flower of the Levant," where the ships of the West meet the caravans of the East. Goods to the annual value of about £10,000,000 are annually transhipped at this spot, which is annually visited by about 3500 vessels, with an aggregate burden estimated at 2,600,000 tons. The above-mentioned steam-shipping companies also touch regularly at Smyrna, as well as at Beirût and other Syrian ports. The most important shipping company in the Levant is the Austria-Hungarian Lloyd. The numerous harbours of the Asiatic archipelago and Tarsus also have an active shipping trade.

(3) In Syria.—The Syrian foreign trade has its focus at *Beirût*, which is specially important as the port of Damascus. Jaffa or Joppa (the port of Jerusalem), Tripoli, Latakia, and Iskanderûn (or Scanderoon) are also noteworthy.

(4) On the Persian Gulf.—*Basra* (Bassora) is a prosperous seaport, though of no independent importance, being wholly dependent upon *Bagdad*, which is situated on the Tigris farther inland. At Bagdad, where the greater part of the trade is in the hands of British merchants, the wares of Persia and India are exchanged for the products of Europe.

The holy cities of the Mahometans and the towns situated upon the great pilgrim-routes (*e.g.* Damascus, Aleppo, Bagdad, etc.) are also the chief emporia of the **Domestic Trade** of Asiatic Turkey. *Erzerûm* holds the first place among the Armenian mercantile towns, though its prosperity has been undermined by the new trade-routes established by the Russians. *Diarbekir* in Kurdistan, situated midway on the route between Asia Minor and the Persian Gulf, is one of the most important caravan-stations.

The almost total absence of roads is the chief hindrance to the development of the domestic trade and of the overland trade with neighbouring states. Even the so-called post-roads are in reality merely wretched caravan tracks, which in previous centuries were in a very much better state than at present.

The *Railways* have a total length of about 1000 miles, the longest being that from Scutari to Angora (430 miles). Important lines also run from Smyrna, and one from Jaffa to Jerusalem. Various lines to the Euphrates have been projected.

The water-ways, with the exception of the Shat-el-Arab, are almost unused for commerce.

The trade of the Levant is carried on principally with Great Britain (nearly 50%), France, Austria-Hungary, Germany, Switzerland, Russia, and Italy.

IMPORTS AND EXPORTS.

The chief *Exports* are horses, camels' hair, silk, *cotton*, tobacco, alizari (madder), yellow-berries, gall-apples and *gall-nuts*, wine, figs, *raisins* (sultana raisins), olives, *opium*, mastic, gums, wax, sponges, timber, copper, *meerschaum* (2500 boxes annually, worth £400,000), mohair, Turkey red yarn, silk and cotton stuffs, carpets and shawls from Smyrna, Turkey leather and other leather goods, silver goods, and pipe-stems.

The chief *Imports* are, in the first place, European manufactures, from Great Britain, Austria-Hungary, France, Germany, Switzerland, Russia, and Italy, including linen, silks, cotton and woollen goods, all kinds of metal goods (especially weapons and gold and silver wire), hardware, porcelain, glass and mirrors, clocks, instruments, and tools of all kinds; in the second place, natural productions, such as hides and skins, pearls, grain, hemp, flax, colonial produce, French wines, dyes, coffee, tobacco, salt, iron, precious stones, etc.

2. TURKISH ARABIA.

The western part of Arabia, divided into the provinces of *Hejaz* and *Yemen*, is under the suzerainty of Turkey; though, in reality, the Turkish suzerainty consists only in the fact that the settled and wandering Arab population recognize the sultan as their spiritual head.

The chief towns in this part of Arabia are *Medina* (20,000 inhab.), *Mecca* (45,000 inhab.), Sana, and the harbours of Yembo, *Jidda*, Hodeida, and Mocha, on the Red Sea. The two first-named towns are the principal Mahometan pilgrim-resorts as well as important markets for the whole of Arabia, although they are accessible only for Moslems.

The fair at Mecca is the largest in the East, and goods for all parts of the Mahometan world here change hands to the value of £15–30,000,000.

The scanty products of the sun-scorched Arabia—horses, dates, spices (incense, myrrh, manna, and balm)—are exported from the above-mentioned towns.

III. PROTECTORATES IN AFRICA.

1. EGYPT WITH NUBIA AND THE EGYPTIAN SÛDAN.

Egypt,[1] as defined below, is bounded by the isthmus of Suez, the Red Sea, Abyssinia, the Galla countries, the Sûdan, the Libyan Desert, Tripoli, and the Mediterranean.

This enormous tract has an area of about 1,172,000 square miles and a population of 17,000,000. For administrative purposes (and also in point of productions) it is divided into two unequal parts: *Egypt Proper* (390,000 sq. m.; 7,000,000 inhab.), as far south as Wady Halfa, and the *Egyptian Sûdan* (782,000 sq. m.; 10,000,000 inhab.), embracing all the conquered territories on the Upper Nile. The name *Nubia* is not used in the country itself. The Sûdan, though abounding in rich natural resources, is still economically in the most primitive condition; Egypt proper consists of about 10,000 square miles of productive soil, stretching in a narrow strip along the Nile, and of about 380,000 square miles of desert. The highly fertile Nile-lands, favourably situated with reference to other nations, are the most valuable part of the empire, and from a hoary antiquity they have formed the basis on which all the powerful Egyptian empires have been erected.

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[1] Owing to the British occupation and the insurrection in the Sûdan the political condition of Egypt is in a state of agitation, the end of which cannot yet be foreseen. In this account of the country we shall therefore describe more particularly the geographical and economic features, which remain fixed amidst all other changes, and which have always been, and always will be, of the greatest weight in deciding the condition and importance of Egypt. The political boundaries, as recognized before 1880, have been retained for this purpose. This course is the more satisfactory, inasmuch as the eastern Sûdan practically forms part of Egypt both geographically and with reference to commercial policy.

The *Inhabitants* of the Sûdan are negroes and Nubians; in Egypt the population (7,000,000), which is of Hamite and Semitic descent, is divided into Fellaheen, Copts, Arabs (Bedouins and settled Arabs), and foreigners. The last-named class embraces Berbers, Negroes, Turks (100,000), Levantines, and Europeans (100,000), of whom about 50% are Greeks, 40% French and Italians, and 4% Austrians. The predominant religion is Islam, but the Copts (300,000) are Christians (Monophysites). A good deal has been done under recent viceroys to promote the education of the people, by the foundation of schools on the European plan; but on the whole the level of education is very low.

Egypt is governed by a hereditary viceroy (Khedive), under the Sultan, but the suzerainty of Turkey is only nominal.

Egypt has made an enormous advance within the present century, and in virtue of that fact occupies a unique position in the Turkish empire; but the efforts of its rulers to play the part of a great power and still more the miserable misgovernment of the country have plunged it into a sea of debt, without improving the condition of the people one iota.

SURFACE AND RIVERS.

Egypt is a rocky and barren upland, with no prominently marked protuberances of the surface, *i.e.* practically a continuation of the Sahara. The broad channel of the mighty Nile traverses the country; and the low delta of that river is continually encroaching upon the sea. The plateau formation prevails also in the Sûdan.

The *Nile* is the life of Egypt; so far as its waters extend a luxuriant southern flora springs up on the fertile soil. From the point where it enters the country to the point where it forks to form the delta, its valley is nowhere more than 20 miles broad. The *Delta* itself embraces between the Damietta and Rosetta arms an area of about 7400 square miles. The water in the Nile begins to rise with the beginning of the tropical rains (beginning of July) in the equatorial regions, where it has its source, and after reaching their maximum height after the middle of September gradually subside. The soil, which is never visited by rain, is revived not only by the waters of the river, but also by the deposits which it leaves behind it. Irrigation *Canals* (some of which are also navigable) conduct the water to spots it would not otherwise reach.

The *Climate* within these limits is, of course, extremely varied. The farther south we go the hotter it becomes; at Khartûm 115° F. in the shade have been observed. The mean temperature in winter at Cairo is 57° F. and in summer 84° F., with a minimum reading of 35·6° F., *i.e.* approximately as in Southern Europe. Egypt has no rain, with the exception of a few showers which sometimes fall in the Nile-delta or on the mountains by the Red Sea. The sky is always blue, and the place of rain is taken by the heavy dew.

The climate of Egypt is on the whole much healthier than that of most hot countries; but in the marshy districts near the Red Sea, and even in the Delta, epidemic fevers and ophthalmia are common. The Sûdan, with its tropical rains and great heat, is very unhealthy for Europeans.

DIVISIONS AND CHIEF TOWNS.

1. Egypt.

1. *Lower Egypt.*—Cairo (Kahira, 374,000 inhab.), capital of the Khedive's possessions; Tanta; Damietta (34,000 inhab.); Rosetta; Alexandria (227,000 inhab.); Port Said (17,000 inhab.).

2. *Central Egypt.*—Medinet el Fayûm; Suez (11,000 inhab.); the Oasis of Siva.

3. *Upper Egypt.*—Siût; Assuan; Cosseir, on the Red Sea; Oases of Dachel and Khargeh.

2. The Sûdan and Nubia.

Khartûm (30,000 inhab.), at the junction of the White Nile and Blue Nile; Korosko, starting-point for the caravans through the Nubian Desert; Suakim, on the Red Sea; Senaar, on the Blue Nile; El Obeid (20,000 inhab.), capital of Kordofan.

NATURAL PRODUCTIONS.

1. **Agriculture.**—Through the care which has recently been bestowed upon it by government, agriculture has regained the high level which it occupied in ancient Egypt. In Egypt proper about 10,000 square miles are under cultivation, and 70% of the inhabitants, notably the industrious fellaheen, are engaged in agriculture. The soil watered by the Nile is unusually fertile, so that at those points where the advance and ebb of the waters are regulated, three harvests may be obtained in one year. The khedives have so far succeeded to the inheritance of the Ptolemies, inasmuch as they are the actual land-owners of Egypt. Under the unrestricted rule of the khedives the fellah was oppressed by taxes, often quadrupled by the extortions of the officials, and obtained only a small recompense for his toil. He was forced to pay a tax on every water-wheel and on every date-palm, and was compelled to surrender his harvest to the government-magazines for a fixed sum; while the selection of crops to cultivate was dictated also by government. Thus Egypt became a *Cotton-producing* country of the first rank when the civil war in the United States (1862-65) offered a favourable opening for that industry. The cotton-cultivation has, however, again declined, though 300,000 bales of 500 lbs. each are still annually produced; but the hiatus has been at once filled up by the cultivation of the quickly-growing sugar-cane (600,000 cwts.).

Among the other chief crops are *Wheat* (1,720,000 qrs.), barley (1,375,000 qrs.), maize (1,720,000 qrs.), peas, *Rice*, *Dates* southern fruits, bananas, indigo, madder, poppies, hemp, flax, wine (in the province of Fayûm), roses, etc. Gum-arabic, incense, and medicinal herbs are obtained in the Sûdan.

2. **Live Stock.**—Among the domestic animals of Egypt are *Dromedaries*, horses (few), asses, *Cattle*, black sheep, goats, and bees. Poultry and ostrich farming are carried on on a large scale. Coral and sponges are obtained in the Red Sea; ivory, skins, hides, and ostrich-feathers in the Sûdan.

3. **Minerals.**—There is no mining in Egypt, but the Egyptian quarries of granite, syenite, and porphyry are noted. Soda, alum, sulphur, and petroleum (on the Red Sea) are obtained in considerable quantities. Metallic ores probably exist in Egypt, but they have not yet been discovered.

MANUFACTURES.

Mehemet Ali (d. 1841) attempted to make Egypt independent of Europe commercially as well as politically, endeavouring especially to promote the working up in the country itself of its rich supplies of raw materials. To this end he founded cotton and cloth factories, ship-building yards, small-arm factories, saltpetre works, powder-mills, cannon-foundries, etc., most of which, however, have collapsed, owing to the great cost of their maintenance. The few ship-building yards, ice-factories, sugar-refineries, etc., which still remain are now in the hands of Englishmen or Frenchmen. Even the smaller industries receive little attention from the Egyptians.

TRADE AND COMMERCE.

The piercing of the Isthmus of Suez[1] in 1859–69 wrought a revolution in the trade of Europe; for the opening of that new international trade-route restored Egypt to the commanding commercial position which its natural situation had enabled it to take in antiquity and the middle ages. Egypt has once more become the connecting link between Europe and Eastern Asia, and the chief branch of its commerce is once more its transit trade. The Suez Canal shortens the voyage between India and the chief European seaports on the Mediterranean Sea and Atlantic Ocean by almost one-half.[2] In 1891, 4207 vessels, with an aggregate burden of 12,218,000 tons, passed through the Suez Canal; of these 3217, with 9,485,000 tons, were under the British flag. No other nation has reaped so much benefit as the British from this canal, constructed mainly with French capital; and they have also now obtained part possession of this passage, which is so important for their Indian empire. Up to the year 1883 £19,620,000 were expended on the canal. In 1891, the gross receipts of this very lucrative undertaking were £3,474,000, and the expenditure £1,451,000. Ships pay a toll of 10 francs per ton.

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[1] The *Suez Canal*, constructed in 1859–69 by M. de Lesseps for the passage of large ocean ships, is the greatest canal in the world. It is 100 miles long, begins at *Port Said* on the Mediterranean, and runs in an almost straight line through Lake Menzaleh, Lake Timsah, and the Bitter Lakes to Suez on the Red Sea. Ships can pass each other in the canal only at certain points, where wider openings or stations have been provided for the purpose. Proposals have been made to increase the number of passing-stations, and even to construct a second canal running parallel with the present one. Instead of this the canal has been both widened and deepened since 1886, the depth being now 28 feet. The electric light has been used since March 1886 to permit of the navigation of the canal by night; and by this means the usefulness of the canal has been greatly increased, while the time required for the transit has been reduced to about 16 hrs.

The *Domestic Trade* of Egypt is closely dependent upon the Nile, which is navigable as far as the equatorial lakes for steamers and sailing-vessels. The cataracts, however, render transhipments necessary. Numerous caravan-routes traverse the country and lead into the neighbouring Barbary States.

Railways (950 miles in all) run from Alexandria *viâ* Cairo to Suez, with numerous branches. *Telegraph-lines* (in Egypt proper 7400 miles; in the Sûdan 5000 miles) unite the principal places. The important cable between Great Britain and India passes *viâ* Alexandria and Suez.

The chief centres of trade in the interior are Gondokoro and Khartûm in Nubia, for the produce of the interior of Africa (gums, ostrich-feathers, ivory, rhinoceros-horns, and senna); Siût, Assuan, and above all *Cairo*, the meeting-point of two worlds.

The *Foreign Trade* is almost exclusively managed by Alexandria, which was visited in 1885 by 2321 vessels, with an aggregate burden of 1,500,000 tons. Nearly the whole of this trade is in the hands of Greek, Italian, or other European merchants. The import trade has its chief seat in Cairo, while the export-trade flourishes at Alexandria. This latter town is regularly visited by the steamers of the Messageries Maritimes, Peninsular & Oriental Co., Compagnie de Navigation Marseillaise, Navigazione Generale Italiana, the Russian Odessa Co., etc. Damietta and Rosetta are of secondary importance.

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[2] A steamer from Western Europe to India reduces the voyage from 11,300 to 7600 sea-miles, and saves 36 days, by sailing *viâ* Suez instead of round the Cape.

A rival to Alexandria has recently developed itself in *Port Said*, at the northern end of the Suez Canal. This new seaport already contains 17,000 inhabitants, of whom one-half are Europeans.

The chief port on the Red Sea is *Suez*, the principal emporium in Egypt for the trade with East Africa and India, and a station for steamers plying to Eastern Asia and Australia.

Cosseir and Suakim, the most convenient points from which to approach the Sûdan (Kordofan), are next in importance. The latter carries on considerable trade in gums, the former in grain.

The Egyptian *Mercantile Fleet* comprises upwards of 500 vessels (30 steamers), with an aggregate burden of 30,000 tons.

IMPORTS AND EXPORTS.

The chief *Exports* are *cotton*, *cereals* (£800,000), leguminous vegetables (chiefly peas), sugar, hemp, flax, *dates*, gums, indigo, frankincense, safflower, madder, soda, tortoise-shell, mother-of-pearl, etc. In 1891 the total value was about £13,880,000.

The chief *Imports* are:—From Europe: timber, metals, coal, all kinds of manufactured goods, woven stuffs, metal wares, machinery, weapons, furniture, glass, porcelain, hardware, and cigars.—From Asia: silks, coffee, and shawls.—From the interior of Africa: ivory, ostrich-feathers, buffalo-horns, dates, gums, frankincense, tamarinds, gold-dust, etc. The total value was £9,450,000.

The foreign trade of Egypt is carried on principally with Great Britain (60%), France, Austria-Hungary, Italy, Russia, Turkey, etc.

Egyptian trade has suffered very greatly from the commotions of the last few years.

2. TRIPOLI AND BARCA, WITH FEZZAN.

These districts, situated in the north of Africa between Tunis and Egypt, form a Turkish vilayet, with an area of about 390,000 square miles, and a population of 1,000,000, consisting of Berbers, Arabs, Moors, Jews, and a few Europeans.

The greater part of the country belongs to the Sahara, for only the coast-districts have a rainy season in the proper sense of the word. The heat is not excessive, and the climate is healthy. Cultivation, which is at present confined to barely 1°/ₒ of the area, might be largely extended, so far as the climate is concerned. Dates, wheat, southern fruits, madder, saffron, olives, sulphur, salt, and large quantities of sponges are obtained.

The chief trading centres are *Tripoli* (20,000 inhab.), *Bengasi*, Ghademes, and Murzuk. Tripoli is the starting point for the active caravan trade to Wadai, Burnou, and even Timbuctoo, Socoto, Kano, and other points in the interior of Africa.

Trade consists mainly in the exchange of European manufactures for the natural productions of Africa, raised partly in the vilayet itself and partly imported from the interior. The seaports of Tripoli and Bengasi are important as termini of the great caravan routes.

Regular steamship communication is maintained between Tripoli and Marseilles and Malta, but the foreign trade by no means corresponds to the favourable situation of the country, though the actual amount of it cannot be ascertained with any approach to accuracy.

GREECE.

The Convention of Constantinople in 1881 produced considerable changes in the position of Greece, which had been declared a sovereign kingdom in 1830. Turkey was compelled to cede to Greece the greater part of Thessaly and a smaller portion of Epirus, amounting in all to about 5235 square miles; and these new acquisitions are of the greatest importance to the Greeks, as they are the most fertile and valuable provinces of the entire kingdom.

The kingdom of Greece now embraces an area of 25,300 square miles, and has a population of 2,000,000, or about 77 inhabitants per square mile. The modern Greeks may in a measure be regarded as descendants of the ancient Hellenes, though they have also foreign blood (Slavonic and Illyrian) in their veins. The population also includes about 100,000 Albanians, a few thousand Turks, besides Armenians and Franks. Nearly the whole population belongs to the Greek Church.

Since the declaration of independence very much has been done to promote the popular education, with highly creditable results. The inhabitants of the cities and the dwellers on the coast are the most advanced in mental culture; the rural population of the interior is still somewhat backward. Athens is the focus of all the intellectual movements among the Greeks both in Asia and in Europe.

Greece is a constitutional hereditary monarchy, with no aristocratic class.

PHYSICAL FEATURES.

Continental Greece comprises two main portions, *Northern Greece* and the *Morea*, connected only by the narrow Isthmus of Corinth. Both parts are covered by mountains and hills, to the almost complete exclusion of plains. In Northern Greece the Pindus chain stretches south to the Corinthian Gulf, eastwards from this range runs Mount Othrys to the Gulf of Volo, forming the southern boundary of the plain of Thessaly, which is bounded on the east by Mount Pelion and Mount Ossa. The Pindus range is continued southwards under the name of Parnassus (8275 ft.), sending out successively to the east Mount Helicon or Zagora (Palæovouno 5150 ft.), Cithæron (Elatiás 4625 ft.), and Hymettus (Trelo Vouni 3400 ft.). The mountains of Attica are continued in the Cyclades.

The centre of the Morea is occupied by the rugged tableland of Arcadia, which is surrounded by a ring of mountains, descending in terraces to the sea. Four ranges run southwards forming as many peninsulas; the chief is Taygetus or Pentedactylon (Mt. St. Elias, 7900 ft.) terminating in Cape Matapan.

The mountains of Greece form part of the "Karst" system, and exhibit the barren and arid character of that region, though in antiquity probably large portions of their surface were cultivated. The numerous islands are all mountainous and tolerably fertile.

Greece is, on the whole, comparatively poorly supplied with water. The *Rivers* are merely coast-streams, which are almost without exception dried up in summer, and are of no value either for navigation or as sources of motive power for machinery. The largest river, the Salambria, is in Thessaly. The *Lakes* are also small and unimportant.

The irregularity of the *Coast-line* is of the greatest importance to the country; no other country in the world is so advantageously circumstanced in this respect. The chief bays are those of Arta, Patras, and Corinth on the west coast; of Koron and Marathonisi in the south; and of Nauplia, Ægina, Lamia or Zeituni, and Volo in the east.

The *Climate* on the coast of Greece is very different from that in the interior. The coasts and islands have a tolerably uniform oceanic climate, with winter rains, closely resembling the climate of Spain and Italy, but the isolated mountain gorges and valleys of the interior suffer from great extremes of heat and cold. At Athens the mean temperature in January is 47·5° F., and in July 78·3° F.; while in the interior the extremes of 113° and 10·4° have been observed.

DIVISIONS AND CHIEF TOWNS.

1. *Roumelia* or *Livadia.*—*Athens* (108,000 inhab.) with the harbour of *Piræus* (35,000 inhab.), Lamia or Zeituni, Missolonghi.—Islands of Salamis, Ægina, Eubœa or Negroponte with Chalcis, Skyro or Scyros.

2. *Thessaly.*—Larissa (14,000 inhab.), Trikkala, Volo.

3. *Epirus.*—Arta.

4. *Morea.*—Corinth, Nauplia, *Patras* (26,000 inhab.), Kalamata, Sparta, Islands of Spezzia or Spetsæ and *Hydra.*

5. *Cyclades.*—*Syra* with Hermoupolis (21,000 inhab.), Paros, Naxos, Andros, Tinos, Milos, Siphnos, Kea, Santorini.

6. *Ionian Islands.*—*Corfu* with *Corfu* (17,000 inhab.), Paxos, Levkas or Santa Maura, *Cephalonia* with Argostoli, Thiaki (Ithaka), Zacynthos or Zante with Zacynthos (16,000 inhab.), *Cerigo* or *Cythera.*

NATURAL PRODUCTIONS.

1. **Agriculture.**—Previous to 1881 Greece possessed few very fertile regions, and only about 53% of the entire surface was productive. Agriculture, moreover, as in the lands under Turkish rule, had sadly retrograded, the country was totally destitute of irrigation works, and a great part of it had been stripped of its forests. These circumstances easily account for the fact that Greece did not raise sufficient cereals for its own use. The acquisition of the highly fertile Thessaly has effected a change in this respect; while it must not be overlooked that agriculture generally has already made great progress. But a long period must necessarily elapse before the mischief of centuries can be made good.

The chief objects of cultivation are *Currants*[1] and *Southern Fruits*, wine,[2] olives, mulberries, tobacco, and a few kinds of cotton.

2. **Live Stock.**—The breeding of domestic animals has attained no high level of excellence. Sheep (3,000,000) and goats (2,000,000) are the principal animals kept. The rearing of silk-worms and bee-keeping are also of importance.

3. **Minerals.**—The mining industry of Greece is insignificant. The absence of coal and the want of capital prevent the adequate

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[1] These currants are a kind of dwarf *grape*, entirely different from the ordinary garden-currants grown in England.—TR.

[2] The wines of Greece (Malvoisy in Tinos) would be excellent if their manufacture was intelligently conducted.

exploitation of the rich fields of lead, copper, and iron, with the exception of the argentiferous lead mines of Laurion. Paros and Pentelicus yield fine marble, and emery is obtained in Naxos and other islands. Sulphur (600 tons annually) is found in Milos and elsewhere; potters' clay and red clay, used for pipe-bowls, are also among the non-metallic minerals of Greece.

MANUFACTURES.

The Greek manufacturing industry has only begun to enjoy some little prosperity since the declaration of independence, and it is still confined to a few spots and to a few articles, while the country as a whole is dependent for manufactures upon Great Britain, Austria-Hungary, and France. The *Leather* industry, *Ship-building*, with its cognate trades, and silk-making are the only industries which make any approach to independence. Cotton-weaving, straw-plaiting, the manufacture of artistic furniture and pottery, and the preparation of oils, soap, and essences are also carried on.

The chief manufacturing towns are Athens (with the Piræus) and Larissa. The Piræus especially contains factories, spinning-establishments, rope-walks, agricultural machine works, breweries, etc., equipped in the modern style. The want of capital, of raw material, and of fuel are the chief hindrances to the rapid development of a wholesale manufacturing industry in Greece.

TRADE AND COMMERCE.

The modern Greeks, like the ancient Hellenes, are born merchants; trade and shipping are their element. The strength of the country rests, as it rested in antiquity, upon its ships; for the greater part even of the **Domestic Trade** is carried on by coasting-vessels plying along the irregular coasts. Land communication in this mountainous country is poorly provided for; only the principal towns are connected by roads. In 1892 the *Railways* of Greece had a total aggregate length of 560 miles. It is proposed to connect Larissa with Athens on the one hand, and with Saloniki on the other. There are 4100 miles of *Telegraph-lines*, with 151 stations in the country; the larger islands are connected with Athens by submarine cables. The 300 *Post-offices* transmitted upwards of 8,000,000 letters in 1892. The ship canal across the isthmus of Corinth is expected to prove a valuable trade route.

The *Foreign Trade*, from the situation of the country and the mercantile talent of the people, is very considerable. Greeks play an important part in all the trading centres in the Levant, and they are represented also among the merchants of Western Europe, especially in Trieste and Vienna.

In 1887 the Greek *Mercantile Fleet* comprised 3200 deep-sea vessels (74 steamers), with an aggregate burden of 270,000 tons. The leading commercial towns are the *Piræus* and *Athens*, *Syra*, *Patras*, *Hydra*, *Spezzia*, *Corfu*, and *Volo*, which are in communication with England, Marseilles, Trieste, Malta, Crete, Alexandria, Smyrna, Odessa, Constantinople, etc. Here, as in Turkey, the irregular eastern coast is of more importance than the western coast, which is more difficult of access.

Greece joined the Latin Monetary League in 1871, the franc being called *drachma*, the centime *lepton*.

IMPORTS AND EXPORTS.

The chief *Exports* are *Currants*, southern fruits, oil, tobacco, *wine*, *silk*, hides, gall-nuts, marble, and lead. The total value is £4,300,000.

The chief *Imports* are fat cattle, *hides*, furs, *grain*, colonial produce, timber (chiefly building-timber), coal (from England), and all kinds of manufactures, especially from Austria-Hungary (woven goods, hardware, apparel, boots, instruments, etc.), and also from England (iron, steel, and cotton goods). The total value is about £6,000,000.

The foreign trade of Greece is principally carried on with Great Britain (26°/ₒ), Austria-Hungary (12°/ₒ), France, Turkey, Russia, and Italy.

The *Customs-dues* are very high.

RUSSIA.

The Empire of Russia, embracing the greater part of Europe and the whole of northern Asia, forms the most extensive continuous country in the world, with an area of 8,750,000 square miles, though with only 105,000,000 inhabitants, or about 17 per square mile.

This enormous empire may be divided into four parts, viz.:—*Russia in Europe* with *Poland* and the *Grand-duchy of Finland*, the *Government of Caucasus* with the *Transcaspian Territories*, *Siberia*, and *Central Asia*.

I. RUSSIA IN EUROPE, WITH POLAND AND FINLAND.

European Russia or Russia proper is situated between 44½° and 77° N. lat., and between 17° 50′ and 67° 50′ E. long., and has an area of 2,110,000 square miles, with a population of 88,000,000. It is bounded by the Arctic Ocean, Russia in Asia, the Caspian and Black Seas, Sea of Azov, Roumania, Austria-Hungary, Prussia, the Baltic Sea, Sweden, and Norway.

POPULATION.

The population of Russia embraces upwards of 30 ethnologically distinct nationalities, most of which belong to the great Caucasian family. The Mongolian family is also represented in European Russia, both by pure Mongols and by mixed races, but it is of little significance in comparison with the Caucasian family. All these different peoples are gradually being reduced to a more homogeneous whole, *i.e.* in other words, they are being subjected to a process of *Russification*.

The predominant race is the *Slavs* (⅚ of the population), who are found scattered over the greater part of the country.

Of these Slavs the majority are *Russians* (63,000,000; Great Russians, Little Russians, White Russians); next to whom in number are the *Poles* (6,000,000) and *Bulgars*. The *Letts* and *Lithuanians* (3,000,000) are races allied to the Slavs. Among the other members of the Aryan family in Russia are *Roumans* (600,000), *Germans* (1,200,000), most numerous on the Baltic coasts, though met with in all parts of the empire, *Swedish*, and *Armenians.*

The *Mongolian* races of Russia include the *Finnish Tribes* (5,400,000; Finns, Esthonians, Volugs, Permiaks, Ziranians), Mordvinians, Tartars, Bashkirs, Kirghiz, Kalmucks, etc. The *Semitic Family* is represented by the *Jews* (3,000,000).

In Russia proper and Poland, Russian is the official language; in Finland it is Swedish.

Among the *Religions* the *Orthodox Greek Church* numbers most adherents, viz. nearly 66,000,000, including the various sects. There are about 9,000,000 Roman Catholics, most numerous in Poland; 5,000,000 Protestants, chiefly in the Baltic provinces, Finland, and in detached "colonies" in the south; 3,000,000 Jews; and 2,700,000 Mahometans. About 20,000 Mennonites are found on the Nogai Steppe; and, finally, there are still about 250,000 pagans. The clergy exercise very great influence over the mass of the people, but their political importance has been slight since Peter I. deposed the patriarch of Moscow, and placed the Czar in the position of spiritual head of all non-united Greek Christians.

The *Density* of the population is not great, and varies very much in the different localities. Poland, and the governments of Kursk, Moscow, Podolia, and Kiev have the densest population (128–230 inhab. per sq. m.); Astrakhan, Vologda, and Olonetz the sparsest (26 per sq. m.). The government of Arkhangelsk[1] (Archangel) has indeed only 1·2 inhab. per square mile.

The Russians are divided into sharply-defined *Social Classes*, viz. nobles, clergy, citizens, and peasants. The first class, which still retains many privileges, is formed partly of old hereditary nobles (*boyars*), but chiefly of personal nobles (*chin*) whose rank is a consequence of their official position. The nobility number about 1,000,000, the clergy upwards of 800,000, the urban population little more than 10% of the whole. The peasants have been free since the abolition of serfdom by the mild Czar Alexander II. (1861–63); in 1861 20,000,000 serfs belonged to the crown, and 23,000,000 to private land-owners.

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[1] This government, more than twice as large as Prussia (335,500 sq. m.), has only about 300,000 inhabitants.

In the matter of *Education* the Russian nation is much behind the nations of Western Europe. Until the reign of Peter the Great the civilization of Russia was more Asiatic than European, but under that able prince the country was forcibly constrained to advance. The efforts of Peter the Great and his successors were concerned entirely with the upper classes and with higher education; and the continuous exertions of all subsequent governments are the source of the refined culture of the upper classes in Russia, as well as of the numerous scientific institutions of the country. The foundation of the Academy of Sciences at St. Petersburg, the multiplication and improvement of universities and middle schools, and the improved training of the "popes" or clergy, are all to be traced to this influence. Numerous Russian scholars have attained world-wide fame, especially in the departments of geography, ethnology, physical science, Slavonic literature, etc.

In consequence of the existence of serfdom the educational efforts of government took practically no account whatever of the masses of the people. A universal popular education was not aimed at until the reign of Alexander II.; and owing to the sparseness of the population and the different levels of civilization of the different peoples, a long period must certainly elapse before an average of education, *e.g.* like that of Austria-Hungary, can be attained. At present not more than 10% of children of school-age in the whole of Russia actually attend school.[1] The proportion varies for the different parts of the country. In the education-district of Dorpat 52% of the children of school-age attend school, in Warsaw 26%, St. Petersburg 14%, Odessa 12%, Kiev 7%, Moscow 5%, and still fewer in the eastern and northern districts. This as yet unsatisfactory state of education should not, however, be used as a reproach to Russia, for since the 17th century that country as a whole has made an educational advance quite unparalleled in any other European state.

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[1] According to Russian estimates, which are distinctly optimistic.

Russia is an absolute monarchy. Finland, united with Russia by a personal union, has a government and parliament of its own, with its seat at Helsingfors.

PHYSICAL FEATURES.

Russia forms one vast and distinctly defined plain, interrupted only by two ranges of hills extending from the *Ural* range, which stretches from the Kara Sea to the Caspian, a distance of 1270 miles. The northern portion of this great range, as far south as the sources of the Pechora, is called the "barren Ural," the central portion the "mineral Ural," and the southern portion the "wooded Ural." Between the Caspian Sea and the Aral Sea it descends into the flat table-land of Ust Urt. The loftiest summit of the broad Ural range rises to the height of 5540 ft.

The two interrupting ranges of hills are:—

1. The *Ural and Baltic Range*, with the *Valdai Hills* (1150 ft.), continued to the south by the *Volchonski Forest.* This line of elevations forms the chief watershed between the Baltic Sea, the Black Sea, and the Caspian.

2. The *Ural-Carpathian Range*, so low that it is pierced by the great rivers.

Branches of the Carpathians rise in the west, and in the north-west some spurs of the Scandinavian ranges project into the country (Finnish Lake Plateau). The Crimean peninsula is traversed by the Tauric chain (4920 ft.).

The character of the great Russian plain varies greatly in different parts. In the north extend vast marshy moors (*tundras*), covered with ice for months at a time, and interrupted by rocky plains. Farther south are immense forests; and to the south of the Volga is the country of "Black Earth" ("*chernö-söm*"), the granary of Russia, with boundless fields of grain and almost no trees. Still further to the south, skirting the Black Sea and Caspian Sea, lie the steppes, which, however, do not extend into the Crimea. The river Don which traverses the steppes divides them into two parts of very different character. The western and well-watered half is a populous pastoral district, abounding in flocks and herds; the eastern half is occupied by dreary steppes, marshes, and sandy deserts, sparsely inhabited by the Cossacks of the Volga and by wandering Kalmucks, still deeply sunk in heathendom.

RIVERS, CANALS, AND LAKES.

Russia possesses a number of excellent navigable streams, whose value, however, is much impaired by the facts that they are frozen for from three to seven months in the year, and that they discharge themselves into seas remote from the traffic of the world.

1. In the basin of the Arctic Ocean.—Pechora; Dvina, formed by the two streams Sukhona (to the west) and Vychegda (to the east); Onega.
2. In the basin of the Baltic.—Neva, the outlet of Lake Ladoga; Narova, outlet of Lake Peipous; Duna; Niemen; Vistula, with its affluent the Bug.
3. In the basin of the Black Sea.—Dniester; Bug; Dnieper, with its tributaries the Beresina and the Pripet.
4. In the basin of the Sea of Azov.—Don, with the Donetz.
5. In the basin of the Caspian Sea.—Volga, with the Oka and its affluent Moskwa, and the Kama; Ural. The *Volga*, the longest river in Europe, has a course of 2200 miles, of which 1800 are continuously navigable; while the river-system of which it is the chief branch has 10,500 miles of navigable water-ways.

Canals.—The enormous distances within the country, the numerous rivers flowing in all directions, the level nature of the surface, and the lowness of the watersheds, could not fail to direct attention to the advisability of connecting the separate seas by means of canals.

The principal canals are: *between the Caspian Sea and the Baltic*, the Vizhni-Volotshok Canal and the Maria Canal, which unite the Volga and the Neva; *between the White Sea and the Caspian Sea*, the Duke Alexander of Württemberg's Canal, which unites the Volga and the Dvina, with the aid of the Maria Canal; *between the Black Sea and the Baltic*, the Beresina Canal (Pripet-Duna), uniting the Dnieper with the Duna; and the Oginski and King's Canals, between the Dnieper and Bug, and the Dnieper and Niemen.

Many new canals are projected, *e.g.* from the Don to the Caspian Sea, *viâ* the Manitsh. Between 1874 and 1886 about 1250 miles of canals have been constructed in the basin of the Pripet, at a cost of £300,000, by means of which 600,000 square miles of land have been reclaimed.

Russia abounds in *Lakes*, especially in the north-west. The chief are *Lake Ladoga*, the largest lake in Europe (7240 sq. m.), *Lake Onega*, Lake Ilmen, both connected with Ladoga, and *Lake Peipous.*

CLIMATE.

A great diversity of climate is naturally to be expected within the vast extent of Russia. Four *Climatic Zones* are recognized: the polar zone, on the Arctic Ocean, where polar bears and walruses are found; a frigid zone between 67° and 57° N. lat.; a temperate zone between 57° and 44° N. lat.; and the warm districts in the south of the Crimea, where lemons ripen.

Notwithstanding these gradations, the climate of Russia, continental in the fullest sense of the term, is very uniform in comparison with the size of the country. The winters are everywhere, except in the Crimea, very long and cold (mercury freezes in the north), while the summers are brief and sultry, as is shown by the following annual mean temperatures. The mean temperature in January at Archangel is 9·6° F., at St. Petersburg 17·6°, Moscow 15·8°, Warsaw 24·8°, Odessa 28·4°, Astrakhan 23°, and Orenburg 9°. The mean temperatures in July at the same places are 58° F., 60·8°, 66·2°, 62·6°, 70·7°, 75·2°, and 68°.

The *Rainfall* of Russia is less than that of Western Europe. At St. Petersburg 18 inches fall per annum; at Kasan 14, at Astrakhan 4·8 inches. For months in winter the whole of Russia is covered with a thick mantle of snow, which contributes greatly to the fertility of the soil when the spring thaw sets in. The north wind and the dry east wind are very cold.

DIVISIONS AND CHIEF TOWNS.

European Russia is divided into 59 "governments," the district of the Don Cossacks, and 4 independent town districts; Finland into 8 provinces or "läns." The ancient historical names of the constituent parts of the empire are retained in the following list:—

1. **Baltic Provinces.**

(1) *Ingermanland.—St. Petersburg* (929,000 inhab.), a regularly and handsomely built town; *Cronstadt* (48,000 inhab.), a seaport and strong fortress; *Narva.*

(2) *Esthonia.—Revel* (51,000 inhab.), a Baltic port; Island of Dagö.

(3) *Livonia.—Riga* (169,000 inhab., chiefly Germans); Dorpat; Dunaburg (70,000 inhab.); Island of Oesel.

(4) *Courland.—Mitau* (30,000 inhab.); Libau (27,000 inhab.).

2. **Great Russia** (Black Russians).—*Moscow* (ancient capital of the kingdom; 753,000 inhab.). This "Holy City of the Russians," containing the famous palace of the Kremlin, is 45 miles in circumference. Most of its 400 churches have gilded domes, which add greatly to its picturesque appearance. Smolensk; *Kaluga; Tula* (63,000 inhab.); Orel (77,000 inhab.); Jelez; Kursk; Voronej (56,000 inhab.); *Nizhni-Novgorod,* on the Volga (70,000 inhab.); *Schuja;* Tver; Jaroslav; Ribinsk; *Novgorod* (Veliki, near Lake Ilmen, and formerly one of the most important factories of the Hanseatic League; 21,000 inhab.); Olonetz, on Lake Ladoga; Vologda; *Archangel;* islands of Nova Zembla and Vaigatch.

3. **Little Russia.**[1]—*Kiev* (127,000 inhab.; a very fine town); Poltava; *Kharkov* (167,000 inhab.); Berditschev (57,000 inhab., chiefly Jews).

4. **South Russia.**[2]—*Kherson* (63,000 inhab.), at the mouth of

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[1] The district once known as the *Ukraine* (Borderland) embraces the greater part of Little Russia.—TR.

[2] Little Russia and South Russia are also called the Land of the Red Russians.

the Dnieper; *Nikolaev* (66,000 inhab.), on the Bug; *Odessa* (154,000 inhab.) on the Black Sea; Azov, Taganrog (63,000 inhab.); Berdiansk. In *Bessarabia.—Kishenev* (130,000 inhab.); Akkerman; Bender. In the land of the *Don Cossacks.*—Old and New Cherkask; Rostov (73,000 inhab.). In the *Crimean Peninsula.*—Simferopol; Sebastopol; Feodosia; Kertch; Perekop.

5. **West Russia.**—In *Lithuania: Vilna* (94,000 inhab.); Grodno. *White Russia.—Mohilev* (41,000 inhab.); Vitebsk; Minsk. *Podlachia.*—Bialystock. *Volhynia.*—Jitomir; Dubno. *Podolia.*—Kamenetz.

6. **Kazan.**—*Kazan* (170,000 inhab.), near the Volga; Ekaterinburg; Tagil; Irbit; Viatka; Simbirsk; Penza.

7. **Astrakhan.**—*Astrakhan* (70,000 inhab.), in the delta of the Volga; *Saratov* (112,000 inhab.); Tzaritzin. On the Volga.—Samara (75,000 inhab.). On the Ural.—Orenburg, Uralsk, etc.

8. **Kingdom of Poland** (43,700 sq. m., with 7,300,000 inhab.).—*Warsaw*, with Praga (431,000 inhab.), on the Vistula; Lodz (113,000 inhab.); Kalisz; Pultusk; Sandomir; Lublin; Modlin (a fortress).

9. **Grand Duchy of Finland** (513,000 sq. m., with 2,111,240 inhab.).—*Åbo* (24,000 inhab.); Nystadt; *Helsingfors* (52,000 inhab.); Sveaborg (fortress); *Viborg* and Frederikshamm, in Carelia; Nikolaistad (Vasa) and Torneå, on the Gulf of Bothnia; Tammerfors. Aland Islands.

NATURAL PRODUCTIONS.

1. **Vegetable Kingdom.**—Russia is at bottom an agricultural state, and will always remain so. For years it has paid for its imports in agricultural produce, and 75% of the population subsist by husbandry. Our examination of the climatic conditions of the country has shown that agriculture is confined in Russia to a zone between 47° and 60° N. latitude,[1] while about

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[1] Under the influence of the hot summers, corn sometimes ripens at 67°, and barley at 62° N. lat.

20°/。 of the surface (the tundras and steppes) are entirely incapable of cultivation. About 38°/。 of the cultivable area is occupied by forests, 16°/。 by pastures and meadows, and 26°/。 by arable land. The last-named land is divided according to its quality into two zones: one to the north of 57° N. lat., stony and not very productive, and the Chernö Söm to the south, between the Volga and the Dnieper, covered with a fine black mould of apparently inexhaustible fertility. This latter region supports 58% of the people of Russia, and yields 68°/。 of the grain produced in the entire country.

Agriculture is still conducted on a very primitive method in Russia; under more favourable circumstances the production of the country could be very much increased.

At the same time tillage in Russia is subject to evils which are only partly remediable. The long winters and the brief, hot summers, forcing the grain rapidly to maturity, compel the Russian husbandman to perform within a few weeks operations for which the farmer of Western Europe has months at his command, and thus to employ more men and more animals, though only for a short time. This great demand naturally enhances the price of labour. The enormous estates of the great land-owners are not only superficially and carelessly farmed, but the tenant-system has introduced a recklessly wasteful mode of culture, especially in wheat and root-crops, that even the proverbial fertility of the "black earth" (which, it may be remarked, is never manured) cannot hold out against for ever.

There are no well-cultivated detached farms, for the Russians live in large villages which resemble the towns, while the small towns resemble villages. The majority of the Russian peasantry are grouped in communes (*mir*), the individual members of which own no private land, but only a share in the communal property. This share varies according to the number of members in the commune, for the communal property is redistributed from time to time among all the male members, including even the youngest boy. This system certainly guards against the formation of a mendicant proletariat, but it acts as an effectual drag upon the ambition of individuals. No one works more than he is obliged to work.

The defective education of the people is also, of course, a serious hindrance to the development of agriculture; though government is doing its best to overcome this fundamental difficulty by the erection of schools of husbandry and model farms. Agricultural machinery is hardly employed at all, except upon the farms of the great land-owners; and its introduction is much hampered by the fact that it must all be imported from abroad at great expense, while in many parts of the country there are no means of having the machines repaired if they should happen to be damaged.

It is mainly this defective and stationary condition of husbandry in Russia that has permitted North America to obtain its agricultural superiority over the former country since 1877. The list of Russian agricultural productions is short, corresponding in this respect to the uniformity of the climate. The chief are *grain*, *potatoes*, *beetroot*, *flax*, *hemp*, and *tobacco*.

All kinds of cereals are produced. *Rye* (37% of the ground sown) is the best crop, but the most important for export is *Wheat* (24–27,000,000 qrs.), grown mainly in Southern Russia. At harvest-time actual mountains of sheaves rise beside the farm-houses, too large to be contained by any barns, and all haste is made to thrash the grain for export. About 20% of the sown ground is occupied by oats. The Russian export of grain is, with one exception, the largest in the world.

The total amount of grain annually produced is officially estimated at about 244,000,000 qrs., of which 15–17,500,000 qrs. are exported.

The cultivation of potatoes (467,000,000 bushels) has doubled within the last twenty years; the roots are largely used for the manufacture of potato-spirit.

Beetroot (40,000,000 cwts.) is grown in steadily increasing quantities in Poland and Little Russia; its cultivators are seeking to obviate the necessity of all importations of sugar.

Flax (6,200,000 cwts.) flourishes chiefly in the north-west of Russia, in Courland, Lithuania, Jaroslav, Vologda, etc.

Hemp (2,400,000 cwts.) is grown in the same districts and also in the central governments: Orel, Tula, Kaluga, etc. These two plants form the principal export of Russia, next to grain. The Russian produce controls the flax-markets of the world.

Hops are grown in Poland and near Moscow.

Tobacco (1,000,000 cwts.) is cultivated in Bessarabia, Little Russia and South Russia.

Wine (about 39,500,000 gals.) is made only in the south, but owing to the method of manufacture its quality is much poorer than it need be; the amount is also inadequate to meet the demand.

Fruit is produced in the south, but the antipathy of the Russian peasant to trees is a serious obstacle to this culture.

Russia's wealth in *Timber* is proverbial, for in spite of the most ignorant methods of forestry and the wretched roads, that country can yearly export timber to the value of £6–10,000,000. The largest forests are in the north,[1] in Poland, Lithuania, and in the east. Pines, firs, larches, and birches predominate in the north; oaks and lime-trees in the west.

The science of forestry is, properly speaking, non-existent in Russia. In the north the woods are so superabundant that they are utilized only for the production of potash, resin, and tar, while the south suffers most severely from the want of timber. Wood is used in Russia on the most extravagant scale both for industrial purposes and as fuel.

Meadow-land abounds in Courland, Bessarabia, and on the Volga; *Pasturage* in the southern steppes.

2. **Live Stock.**—Stock-farming is one of the chief sources of the national wealth of Russia. In the actual number of its domestic animals (20,000,000 horses, 29,000,000 cattle, 50,000,000 sheep, 10,500,000 pigs) Russia excels all other European nations, though in proportion to its population the wealth of live stock (horses excepted) is not very great. The industry flourishes on the greatest scale on the broad steppes

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[1] The state alone owns nearly 2,000,000 square miles of forests on the White Sea and Baltic Sea.

of the south, where the animals spend the whole year in the open air; in the north, on the other hand, they require to be fed under cover for 100–200 days out of the year. Speaking generally, the breeding of domestic animals is not carried on very skilfully. *Horse-breeding* is best understood; and is carried on in the 3000 stud-farms, which have been instituted to promote this branch, with such success that Russia now possesses not only the most but also the best horses in Europe.

Cattle are bred in Russia chiefly on account of their hides, tallow, and flesh; the production of butter and cheese is scarcely aimed at. Little is done to improve the breeds, and, in fact, cattle-plagues are of frequent occurrence owing to the want of care in the management of the stock.

Much more care is bestowed on the improvement of the stock of *Sheep*, by cross-breeding with merino sheep and fat Persian sheep. The finest wool is obtained from the Crimea. The broad-tailed sheep is found round the Caspian Sea, where it is bred for the sake of its tallow, the universal substitute in Russia for butter. Next to Great Britain, Russia yields the largest quantity of wool in Europe (389,400,000 lbs.). The formerly flourishing export-trade has been almost entirely killed by Australian competition, but the wool is now utilized in the Russian wool-factories.

The chief article of export yielded by the *Swine-breeding* industry is *Bristles*.

Bee-keeping, once highly prosperous, no longer meets the home demand.

Herds of *Reindeer* form the wealth of the Laplanders; *Camels* are bred in the south.

The fruits of the *Chase* in Russia are very abundant. The thick woods afford cover for numerous stags, elks, wild boars, wolves, squirrels, lynxes, beavers, foxes, bears, etc. In the north sables, ermines, polar bears, eider ducks, and swans are found. Seals are also captured in considerable numbers.

The *Fisheries*, both in the rivers and off the coasts, are highly important. The principal fishing-grounds are at the mouths of the Don and Volga, where herrings, sheat-fish, and sturgeon are caught in incredible quantities.[1] The total annual value of Russian fisheries is estimated at £6–10,000,000, of which 50°/₀ is yielded by the Caspian Sea. This production, gigantic as it is, is inadequate for the demands of the country, where enormous quantities of fish are consumed, especially during the church-fasts. Isinglass and caviare (60,000 cwts.) are the only fishery produce exported.

3. **Minerals.**—With regard to minerals Russia is one of the most richly endowed countries in Europe. The further researches are pushed, the more inexhaustible appears this wealth; new deposits and new mineral treasures are constantly being discovered.

Gold, silver, platinum, iron, copper, zinc, and salt are as yet the principal minerals worked in Russia. Most of the mines are situated in the central portion of the Ural Mountains, which has received the title of the "mineral Ural," on account of its rich deposits. The chief seat of the industry is the government of Perm.

The dearness of labour, defective means of communication, and the want of fuel have hitherto prevented the Russian mining industry from being developed to its full extent. But since coal has to some extent replaced the at one time universally used charcoal, and since the construction of railways in the mining districts, a steady improvement has ensued. Russia possesses *Coal* in much greater quantities than was at one time supposed; the chief fields are in the neighbourhood of Moscow, in Poland (continuation of the Silesian coal-measures), on the Donetz (anthracite), and in the western Urals. These extensive deposits are, however, somewhat difficult to work. The total annual yield of coal is 4,000,000 tons, which falls short of the quantity required.

Iron is found in Perm, Viatka, the mining region around Moscow, on the Donetz, and Poland (500,000 tons); while magnetic iron-stone, the most valuable iron ore, is found along the whole length of the Ural range. ("Siberian Iron.")

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[1] The *Acipenser Huso* is sometimes 25 feet long and 1820 lbs. in weight; *Acipenser Sturio*, 18 feet and 880 lbs.; the sheat-fish (*Silurus glandis*), 10–12 feet and 650 lbs.

About 20,000 lbs. of *Gold* are annually produced; and in the Urals about 6600 lbs. of *Platinum*, or more than four-fifths of the entire production of the world.

Copper (1700 tons) is mined in Perm, Orenburg, Poland, and Finland; *Zinc* (4400 tons) in Poland.

Iridium (solid), *Malachite* (in large blocks), *Lapis Lazuli*, *Emeralds*, *Diamonds*, *Topazes*, and *Onyxes* are found in the Urals.

Salt is found in Russia in inexhaustible abundance, especially in the numerous lakes of the steppes, some of which (*e.g.* Lake Elton) are filled with a saturated solution of salt. Rock-salt is found in the Urals and in Poland. Many lakes also yield *Soda*. The total annual yield of salt is about 750,000 tons.

Among the other mineral productions of Russia are *Amber*, on the Baltic coasts, colossal blocks of *Granite* in Finland, porcelain clay and meerschaum in the Crimea; besides numerous chalybeate, sulphur, and saline springs.

Peat-moors abound on the Baltic coast and in the neighbourhood of Moscow.

MANUFACTURES.

The modern manufacturing industry[1] of Russia, which is in an undeniably progressive and prosperous condition, owes its existence and development chiefly to the system of protection forcibly established in 1822. Up to that date Russia was almost completely dependent upon other nations for manufactured goods; the army, for example, was clothed with British cloth; but since then it has become in many industrial departments quite self-sufficient, and even exports on a large scale to Asia.

The chief impediments to the expansion of manufactures in Russia are the overwhelming proportion (75%) of the population engaged in agriculture and stock-farming, the enormous distances within the empire poorly supplied with means of communication, and the irregular distribution of fuel, which in some districts is entirely wanting. On the other hand the manufacturing industries are supported, apart from government protection, by the varied production of raw material, by abundance of capital, and by the cheap and skilful labour at its command.

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[1] Peter the Great set the first hand to the erection of this industry by introducing artists and workmen from abroad. The subsequent czars followed in his footsteps, without, however, conspicuous success.

The Russian is by nature peculiarly docile and imitative; "his hand reproduces whatever his eye sees." But he soon tires of any work that is uniform and unvaried, he likes to try everything, for "the Russian has a genius for dabbling." He is, moreover, seldom fitted to manage any large undertaking, so that the directors, chemists, engineers, mechanics, etc., in Russian factories are generally foreigners.

The chief manufacturing districts are situated in Central Russia: in *Moscow*, Vladimir, Kostroma, Tver, Kiev, Perm, Riazan, Tula, Shuja, Jaroslav, and Poland. St. Petersburg is conspicuous on account of the imperial factories.

The majority of Russian factories are situated in the country, and not, as in England, in towns. Factory life in Russia is thus very different from that in Western Europe. In Russia the factory hand is so only at intervals; he is also a peasant. In this respect he is in a better position than his western fellow; he is better fed, and is in no danger of sinking into one of the proletariat. The largest manufacturing towns with a constant manufacturing population are Moscow, St. Petersburg, Warsaw, and Lodz.

A considerable proportion of the Russian manufactures are produced by domestic industries. In the villages and families division of labour is often carried to a very great length.

The most important manufacturing industries are the textile and metal industries, and the manufacture of leather, soap, candles, sugar, and spirits. Nearly all other branches are also carried on on a greater or less scale, but none is so developed as to obviate the necessity of importation.

Textile Industries. — *Cotton.*—The cotton manufacture in Russia dates only from the present century; before 1840 only imported cotton goods were worn. At present about 2,400,000 cwts. of raw cotton are annually spun by 3,600,000 spindles, a quantity which not only meets almost the entire domestic demand, but also maintains a large export trade to Asia. The finest quality of cotton goods must, however, still be imported. The chief cotton-manufacturing centres are *Moscow* (Sareva, near Moscow), with large dyeing and printing works, *Vladimir*, Ivanovna, Tver, Shuja, *St. Petersburg*, Warsaw, Lodz, etc.

Woollens.—The woollen industry has also considerably expanded, especially the manufacture of cloth, the importation of which is steadily falling. The chief manufacturing towns are *Moscow*, *Tagantsha* (in the government of Kiev), *Sarepta*, Pernau, *Warsaw*, Lodz, Bialystock, and Kalisz.

The *Carpets* of Vassilievka, near Moscow, are noteworthy.

The *Linen Manufacture* in Russia is of considerable antiquity, and is carried on as a domestic industry throughout the entire empire, and on a wholesale scale in the central governments. Arkhangel, Shuja, Moscow, and St. Petersburg produce good *Sail-cloth.* The Russian manufactures of *Ropes and Cordage* occupy a unique position, being quite unequalled in any other country in the world.

The value of the flax and hempen goods produced in Russia is estimated at £25,000,000.

The *Silk Industry* centres at Moscow, which also produces excellent ecclesiastical vestments, embroidered with gold and silver thread.

Metallic Industries.—The native *Metal Industry* is of considerable importance, though it suffers more than any branch of industry from defective communications and want of fuel, and as a consequence fails to satisfy the demand. It has recently made great strides in the Ural Mountains, where numerous iron and copper mines exist, especially at Ekaterinburg, Nizhni-Tagil, Perm, etc. Among the large metal-works are the Demidoff furnaces and the Apakajev foundries. The total production of steel is estimated at 300,000 tons. Iron and steel goods of all kinds are made at Tula, Moscow, Warsaw, Vladimir, and Kazan. Voroma, near Nizhni-Novgorod, is famous for cutlery; Tula and Slatoust, in Perm, for weapons and so-called Tula wares (niello); St. Petersburg, Cronstadt, and Ekaterinburg possess foundries; St. Petersburg, Moscow, Kolomna, Kovrov (Vladimir), and Odessa contain machine-factories.

Samovars, or Russian tea-urns, are made in large quantities at Moscow, Tula, and St. Petersburg.

St. Petersburg and Moscow also manufacture *Gold* and *Silver Goods*, philosophical, musical, and astronomical instruments, and watches.

Although the metal industries employ a very great number of workmen (the iron industry alone employs 400,000) they cannot compete in point of quality with foreign countries. Large quantities of the better qualities of iron and steel goods are imported from England; and sickles, scythes, etc., from Austria-Hungary. At the same time the efforts of the government are gradually reducing the dependence of Russia upon foreign importations.

Other Industries.—The manufacture of *Plaited Articles in Linden-bark* is peculiar to Russia, and millions of young linden-trees are annually cut down to supply the necessary fibres. The industry flourishes principally in the governments of Kazan, Viatka, Kostroma, Vologda, Penza, etc., where shoes as well as mats are produced.

Paper is made at St. Petersburg, Riga, Jaroslav, in the neighbourhood of Warsaw, and at Helsingfors and Tammerfors in Finland. The supply is not equal to the demand.

The Russian *Leather Manufacture*, carried on in all quarters of the empire, has long been famous. The well-known Russia leather, which owes its fragrant odour to the birch-oil with which it is tanned, is made chiefly in the centre and north of the country; Turkey leather in the east and south.

Tver contains large *Shoe-factories;* the best *Gloves* are made at Moscow and St. Petersburg; and fine *Furs* are obtained at Moscow, St. Petersburg, Warsaw, etc.

The production of *Glass*, *Porcelain*, *Furniture*, and *Fancy Goods* is confined to the largest towns, and falls far below the domestic demand. The glass and porcelain made in the imperial factory at St. Petersburg is of a very high class.

St. Petersburg has manufactories of articles in *Malachite*.

Most of the 236 *Sugar-factories* of Russia are situated in *Poland* (especially near Warsaw) and *Little Russia.*[1] About 6,400,000 cwts. of sugar are annually produced.

Russia contains 274 *Tobacco-factories*, of which the majority are in St. Petersburg, Moscow, and Kherson. Finland has 28 factories. Russian cigarettes form an article of export.

Chemical Factories abound all over the empire, chiefly, however, in the government of Moscow (saltpetre, potash, and albuminous substances).

Large quantities of *Tallow* are exported in spite of the large native consumption for soap and candles.

The distilling of *Brandy* (*vodka*) is a highly prosperous industry, consuming no less than 15,000,000 qrs. of grain per annum.[2] *Brewing*, producing 158,000,000 gallons of beer per annum, is less important.

Carriage-building flourishes at St. Petersburg and Moscow.

Ships are built at all the seaports, and on the Volga, Oka, and Kama. About 10,000 river-craft, chiefly grain and timber vessels, are annually sold.

TRADE AND COMMERCE.

In virtue of its situation and productions Russia occupies a unique position in relation to Western Europe and Asia. To the former it stands in the relation of an agricultural state, exporting raw produce and importing manufactured goods; its relation to the latter is quite the reverse, the natural productions of Asia are brought to the Russian markets and are there exchanged for manufactures.

Russia thus forms an important connecting link between two quarters of the globe, though the great bulk of its trade is carried on with Europe.

This important commercial position dates only from the days of Peter the Great. Previously Russia owned no seaboard except on the ice-bound White Sea; but that monarch effected a footing on the Baltic and Black Seas, and under him and Catherine II. the two most important Russian seaports were called into existence, viz. St. Petersburg in 1703 and Odessa in 1793. While maritime trade thus became possible to the Russians, almost as much has been accomplished, since the same reign, for the domestic trade, which has at all times been sorely hindered by the enormous distances separating the various towns and provinces.

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[1] The government of Kiev contains 65, Kharkov 21, Podolia 21. Little Russia also contains 55 refineries.

[2] The unlimited consumption of spirits is one of the curses of Russia. The drink-tax yields upwards of £33,000,000.

The **Domestic Trade** is greatly facilitated by the rivers and canals, nearly 31,000 miles in aggregate length, which transport the products of the interior to the coasts, and bring back the imports from abroad. Thus the *Dvina* bears the timber of the northern forests to *Archangel*, the *Duna* carries grain, hemp, flax, and timber to *Riga*, and the *Dnieper* and *Don* transport millions of quarters of "Odessa wheat" to the sea and bring back upwards of 2,000,000 cwts. of salt from the Crimea to the interior. But all other Russian streams are excelled in importance by the *Volga*, which is at once the main artery for the extensive Russian inland trade and the backbone of the entire Russian canal system. Nearly all the Russian rivers, including even tributary streams, are navigable for steamers all the summer through, both on account of their gentle currents and of their abundant water. There are about 1200 river-steamers in Russia, of which at least 600 ply on the Volga. Navigation is annually interrupted by ice for six or seven months in the north, and for three or four months in the south.

In addition to the rivers must be reckoned the already-mentioned canals, which connect seas lying hundreds of miles apart.

The most important means of communication is, however, afforded by the *Railways*. The enormous extent of the country will for a long time to come prevent the Russian railways from doing more than connecting the principal towns and merely intersecting the most productive provinces; a close net-work of railways, such as covers England and Germany, will probably never be found in Russia, except perhaps in a few districts. The great importance of railways to an agricultural state like Russia impels the government to strain every nerve to procure the construction of new lines. Since 1860 the most successful efforts have been made in this direction; Russia is multiplying its railways at enormous expense,[1] and is introducing this great engine of progress into Asia. In 1892 the total length of the Russian railways was 20,200 miles, 1200 miles being in Finland. The line opened in Finland in October, 1866, between Helsingfors and Uleaborg is the most northerly line in the world (65° N. lat.).

The chief railway centres are St. Petersburg, Moscow, and Warsaw. During the last few years, and especially in Western Russia, a considerable number of military railways have been built, which for strategic reasons have a broader gauge (viz. 5 ft.) than that of other continental lines.

The Russian *Roads* are generally in a very poor state, especially in the region of the "Black Earth." Travelling is easiest in winter when sledges are used. The chief commercial routes between Russia and the neighbouring states are:—

1. Two routes over the *Ural Mountains* to Asia: *a.* From Ekaterinburg through Siberia and *viâ* Kiakhta to China; *b.* From Orenburg to the Kirghiz Steppes, Bokhara, Khokand, etc.

2. The *Dariel Pass*, over the central portion of Mount Caucasus from Vladikavkaz to Tiflis.

All the roads leading from the frontiers, and those connecting the principal towns of the interior, centre at Moscow.

Russia contains 88,000 miles of *Telegraph-lines* (172,000 miles of wires), with 3800 stations, which transmitted 11,500,000 messages in 1889. Russia has telegraphic communication with Central Asia, and a telegraph line stretches through Siberia to China and Japan. The Russian lines form an important link in the telegraphic girdle round the world, which has yet to be completed by a submarine cable from Siberia to San Francisco, thence returning to Europe *viâ* New York.

Russia is also traversed by one of the great East Indian telegraph lines, passing *viâ* Warsaw, Odessa, Crimea, Transcaucasia, Persia, and Bombay.

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[1] Up to 1884 £360,000,000 are said to have been spent on the construction of railways in Russia.

The railway and telegraph companies are foreign, chiefly French.

The *Postal Service* is well organized, and includes arrangements for the rapid transit of passengers as well as of letters. In 1890 Russia had 5980 post-offices, which transmitted 169,000,000 letters and post-cards.

It is a great convenience for commerce that the weights and measures are uniform throughout the entire country.

The chief emporia of the domestic trade are *Moscow*, Kharkov, Ribinsk (situated midway on the canal-system uniting the Volga and the Dvina), Tver, Orel, Jaroslav, *Kiev*, Alexandrovsk (on the Dnieper), *Warsaw*, etc.

The gigantic extent of the country, the enormous distances separating the towns, the defective means of communication as well as the backward state of the people, involve the retention in Russia of methods of trading largely outgrown by the nations of Western Europe. Thus pedlars or hawkers still carry on a large amount of business in a manner peculiarly adapted to the Russian character, and *Markets* and *Fairs* are also important.

The seven principal Russian fairs are held at Moscow, Kharkov, Pultova (where horses, sheep, and wool are dealt in on a large scale); and at Elisabethgrad, Kursk, Irbit, and Nizhni-Novgorod.

Since 1817 the fair at the last-named town has been the largest in the country, and it has no rival in any country in the world for the quantity and variety of goods offered for sale during the six weeks which it lasts (July 27th to September 6th). Nizhni-Novgorod is charmingly situated at the junction of the Volga and Oka, forming the centre of the overland trade and traffic between Europe and Asia for the entire stretch of country between the Arctic Ocean and the Caspian Sea; it is the emporium where two continents exchange their goods. The appearance presented by the town during the fair corresponds to its importance. In addition to the usual bazaars of the town, with their thousands of shops, the rivers are lined with countless booths and anchored vessels. Every costume worn between Paris and China is here represented. Persians, Bokharese, and Hindoos bring costly woven stuffs; Khirgiz sell skins and horses; Caucasians bring precious stones, and Chinese bring tea; Russians offer cattle, furs, metal goods, crockery, etc.; and British and Hanseatic merchants vend manufactures, dye-woods, American herbs, and colonial produce of all kinds. The annual turn-over at this fair is estimated at £30,000,000, and 300,000 foreign merchants are said to attend it. The custom of selling goods by pattern and sample has begun to make headway in the Russian fairs during the last few years.

The fair at Irbit, in the government of Perm, lasts from Feb. 1st to March 1st, and assembles about 60,000 merchants. It is the great market for Siberian goods.

Besides these commercial institutions, which savour more of Asia than of Europe, we find in Russia other extensive institutions, organized on the most modern principles. Among these are banks, insurance companies, and mercantile companies of all kinds, many of which, however, owe their origin in whole or in part to foreign capital.

Foreign Trade.—Before the reign of Peter the Great the trade of Russia was exclusively an overland trade; that monarch laid the foundation of the Russian fleet, and secured a share of the maritime trade of the world for his country. Russian vessels now sail from the White Sea and the Baltic, from the Black Sea and the Sea of Azov, and ply upon the Caspian Sea.

The principal seats of the foreign trade are the seaports of *Archangel*, *St. Petersburg*, with *Cronstadt*, *Riga*, *Odessa*, *Taganrog*, and *Astrakhan*.

Archangel, though its port is closed by ice for seven months in the year, carries on an important export trade in timber, tar, pitch, grain, and furs. It is annually visited by about 3000 ships.

St. Petersburg is the chief depot for colonial produce and dye-stuffs, wine, and cotton; and exports tallow, flax, hemp, bristles, potash, hides, metals, etc. Its turn-over is estimated at £24,000,000. A maritime canal (19 miles long), opened in 1885, enables ships of the largest size to reach St. Petersburg, which is annually visited by about 3000 vessels (1500 steamers), besides coasting craft. This port has regular steam communication with Great Britain (London, Hull, and Liverpool), France (Dunkirk), Holland, Belgium (Antwerp), North Germany (Stettin, Lübeck, and Rostock), Sweden (Stockholm), and Denmark (Copenhagen).

Riga, the capital of Livonia, situated with its foreport Dunamünde, on the *Duna*, was at one time a prosperous member of the Hanseatic League. It is still the chief depot in Western Russia for flax, hemp, timber, etc., and is annually visited by about 3000 vessels (1500 steamers), with an aggregate burden of 1,000,000 tons.

Odessa, though not very favourably situated by nature, is the chief port on the Black Sea. It was founded in 1793, and endowed with various privileges which have materially contributed to its prosperity. Next to St. Petersburg it is the leading commercial city in Russia. Situated between the mouths of the Danube and of the Dnieper and Dniester, it forms the chief depot for the produce of Southern Russia, of which the chief are *Grain* (Odessa wheat), tallow, wool, and linseed. This harbour carries on trade with all the other Black Sea ports, with Turkey in Europe and Asia, Greece, Austria, Italy, Marseilles, Bordeaux, London, and Liverpool. The steamers of the companies plying to Constantinople touch also at Odessa, which is annually visited by 2200 vessels, with an aggregate burden of 1,900,000 tons.

Taganrog is the chief port on the Sea of Azov, and is principally engaged, like Rostov, in the export of cereals and other South Russian produce.

Astrakhan, on the delta of the Volga, is the central point of the Caspian Sea trade. It carries on trade with Persia and the interior of Asia, and it is the chief emporium for the fishing industry of the Volga (caviare, isinglass, sturgeon, sterlets).

Åbo, Helsingfors, Revel, Libau, Feodosia, and Kertch, though inferior to the above-mentioned seaports, are also of considerable importance.

In 1891 the number of vessels that entered Russian ports in the foreign trade amounted to a total of 10,806, with an aggregate tonnage of 6,591,420, the tonnage under the Russian flag being only 577,000. In the coasting trade the number entered was 28,527, with an aggregate burden of 7,607,000 tons. In addition, the Caspian ports were entered by vessels of the aggregate burden of 3,889,000 tons. The Russian commercial navy numbered 2418 vessels, of 545,000 tons burden.

IMPORTS AND EXPORTS.[1]

From what has been already said it is evident that the chief classes of imports are manufactures, colonial produce, and southern produce; and the chief classes of exports Russian raw produce (to the west) and Russian manufactures (to the east). The principal *Imports* are cotton, coffee, oil, southern fruits, silk, and wines, from Germany, France, and Spain; linen and woollen goods, watches, machinery, and steel goods from England; glass, porcelain, scythes, sickles, and other common iron goods from Austria and Germany; tea (£4,500,000) from China, partly overland *viâ* Kiakhta, but chiefly by sea *viâ* Suez and Odessa; and precious stones, skins, furs, horses, and metals from Asia generally; fruit and vegetables (£1,950,000).

The import trade labours under heavy duties, for a rigid system of protection still prevails in Russia. Many articles are still forbidden, though considerable alleviations have been granted since 1869, and a number of articles declared duty-free. Most articles are stamped on paying duty. There are different tariffs for imports by land and by sea.

The chief separate *Exports* are *grain* of all kinds (£42,000,000), chiefly to England, France, and Italy; *flax* (4,000,000 cwts.), *hemp* (1,600,000 cwts.), *linseed*, *tallow* (soap and candles), *timber*, wax, pitch, tar, potash, fat cattle, *petroleum* (from the Baku district), hides, furs, bristles, wool (400,000 cwts.), *Russia leather*, Turkey leather, ropes, sail-cloth, spun goods of all kinds (£12,900,000), to Asia, sugar (£2,700,000), caviare, train-oil, isinglass, etc.

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[1] For the empire at large.

The great bulk (two-thirds of imports and exports) of the Russian trade is transacted with England (£38,100,000) and Germany (£42,900,000), next to which rank France, Austria-Hungary, Turkey, Italy, Holland, Belgium, China, etc.

The total value of the imports in 1891 (excluding precious metals) was about £38,000,000, and of the exports £72,000,000.[1]

Finland forms a customs district by itself, with imports in 1890 valued at £5,600,000, and exports valued at £3,700,000.

Russian merchants are divided into three *Guilds*, endowed with various privileges, and differing in the extent to which they may engage in commerce. The first and richest guild may trade without any restriction; the second is permitted to carry on an unrestricted inland trade, but foreign trade only to a limited extent; the third may only engage in inland trade.

The greater proportion of the foreign trade is, moreover, in the hands of foreigners, chiefly *Englishmen*, French, and *Germans* in the Baltic ports; Armenians, Greeks, and Italians in the Black Sea ports; and Persians and Bokharese in the Caspian ports. The Chinese enjoy great commercial privileges in Russia. The Jews are much oppressed, but contrive notwithstanding to maintain an extensive commerce in all parts of the empire, especially in *Poland*, where entire cities are inhabited solely by this people.

The chief languages of trade in Russia are (in addition to Russian) German, which all large merchants understand, Persian, and Polish. French is the language of the cultivated classes. Armenians are largely employed as interpreters.

II. RUSSIA IN ASIA.

Russia owns no colonies like those of Great Britain; for the possessions of this gigantic empire form one continuous, connected whole, and the Russian speaks of but one "Holy Russia." It is impossible yet to say where Russia proposes to place the limit to her acquisitions; but it must be allowed that the Russians, like the Romans, appear in Asia as the heralds of civilization. Whatever falls under their rule is Russified, but at the same time civilized. Thousands upon thousands of square miles, which were formerly the haunt of Asiatic hunters and nomadic races, have already been permanently won for civilization by the Russians. Regions which thirty years ago were barely accessible to travellers disguised as dervishes are now traversed by posts and telegraphs; and in the heart of Asia not only have schools, military posts, and railway-stations arisen, but agriculture, mining, and commerce are protected by laws permeated with the European spirit, and the effort to establish law and order has replaced open tyranny and barbarity. No true estimate of the real merits of the Russians can be formed without studying their achievements in Asia, and without weighing the difficulties with which they have had there to contend.

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[1] About a half of the imports and a third of the exports pass through the Baltic ports, a third of the imports and a quarter of the exports cross the land frontiers, the remainder passes through the southern ports.

The Russian possessions in Asia are politically divided into three parts, viz.: *Caucasia*, *Siberia*, and *Russian Central Asia*.

1. CAUCASIA.

Caucasia lies between 39° and 46° 40′ N. lat. and between 37° and 47° E. long. It is bounded by the Black Sea, Russia in Europe, the Caspian Sea, Persia, and Turkey, and embraces an area of 185,000 square miles, with 6,600,000 inhabitants. The population is, as it were, a museum of nations; 70 different languages are said to be spoken in the Caucasian provinces. For the most part the inhabitants are peaceful Persians and Georgians engaged in agriculture, Armenians carrying on trade, Russians (mostly soldiers and officials), German colonists, and finally wild mountain tribes, such as Chechentzi, Osetintzi, Lesghians,[1] etc.

Russian schools are being everywhere founded, by which civilization, and at the same time the Russian spirit, is introduced among the people. Many young Armenians and Georgians visit Russia, and even Western Europe, in the pursuit of more advanced teaching.

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[1] The Circassians have mostly emigrated to Turkey in Europe, thus largely reducing the population of Caucasia.

PHYSICAL FEATURES AND CLIMATE.

The surface is mostly mountainous, being to a great extent occupied by the Caucasus range, 580 miles long and 230 miles broad. The crest of this range is about 8200 ft. in height, but Mt. Elbruz and Mt. Kazbek rise respectively to the height of 18,570 ft. and 16,545 ft. Wide steppes stretch from the north foot of the Caucasus; while to the south of the Kura extends a fertile valley and part of the Armenian table-land, with Mount Ararat (16,900 ft.).

The absence of lateral valleys is a curious characteristic of the Caucasus Mts., to which their great inaccessibility is due.

The *Climate* varies; for the Caucasus forms not only an administrative but also a climatic division. *Ciscaucasia* has the same climate as South Russia; while in the sheltered valleys of *Transcaucasia* cotton and southern fruits attain maturity. The annual mean temperature at Baku is 59° F., at Tiflis 55·4° F., and at Erivan 50° F.; many of the mountain valleys have colder climates. While only 4 in. of rain falls on the northern slopes of the Caucasus, the rainfall at Tiflis is 17·5 in., and on the Black Sea shores even 58 in. Transcaucasia is thus, on the whole, the most fertile part of the country.

The chief rivers, in addition to the numerous small mountain streams, are the *Kuban* and *Rion*, entering the Black Sea, and the *Kura* or *Kur* and Terek, entering the Caspian.

CHIEF TOWNS.

The chief towns are:—

1. In *Ciscaucasia.*—*Stavropol* (35,000 inhab.), Mozdok, Kisliar, Vladikavkaz (a fortress), Yeisk, and Derbent.

2. In *Transcaucasia.*—*Tiflis* (104,000 inhab.), on the Kura, in Georgia; *Baku*, on the Caspian Sea; *Erivan;* Etchmiadzin (seat of the Armenian patriarch since 1441); Kars; Kutaiz, on the Rion; Poti; and *Batûm*, on the Black Sea, a rising seaport.

NATURAL PRODUCTIONS.

Agriculture is most prosperous in Transcaucasia, where all kinds of grain, fruit, *wine*,[1] saffron, cotton, and madder are produced. The Caucasus is unusually rich in *Timber*, beech and walnut wood being produced in profusion in the direction of the Black Sea. Agriculture has been promoted by the abolition of serfdom, by the suppression of the slave-trade, the construction of safe roads, the lowering of taxation, and by German model-farms, which have met with considerable success.

The breeding of **Domestic Animals** is of greater importance than agriculture in Caucasia. Excellent horses, cattle, sheep, camels, and great numbers of bees and silk-worms are reared in all quarters of the country; while *Game* (chamois, elks, bears, etc.) abounds in the mountains. *Fishing*, chiefly for sturgeon and sheat-fish, is especially productive in the Kura.

The **Mineral Wealth** of Caucasia, so far as can be judged from the superficial investigations yet made, seems to be great. *Silver*, iron, copper, *Coal*, *Salt*, and very numerous mineral springs (upwards of 100), have been discovered.

At present the most valuable mineral production is *Petroleum*. The entire country from the Caspian to the Black Sea abounds in this oil, but only the supply on the peninsula of *Apsheron*, near Baku, which has been known from a remote antiquity, has begun within recent times to be worked on a large scale. The volume of the oil-springs is much greater than that of the American springs, and it is even supposed that Caucasia possesses more petroleum than North America. The exploitation of the oil, which was thrown open to all by government in 1870, and has also been duty-free since 1876, is carried on on the American plan, and is estimated to yield from 220,000,000 to 550,000,000 gallons of oil.[2] Caucasia now supplies Russia and a good part of Asia with petroleum, which is transported by means of tank-ships and tank-trucks, and is also freely sold in Western Europe. This traffic, and as a consequence the production of oil, will be much increased by the abolition of the difficulties of communication which at present separate the oil-wells from the Black Sea. The petroleum refuse serves as fuel for steamers and locomotives, a matter of the highest importance in South Russia, where both coal and wood are rare.

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[1] Caucasia is the original home of the European grape-vine, which still grows wild there, bearing fruit which is plucked and pressed. Much Georgian wine is sent to the fairs of Nizhni-Novgorod.

[2] Accurate returns are, however, awanting.

The native manufactures meet only the bare demands for necessaries. Tiflis and Erivan are distinguished for their woven stuffs, carpets, embroideries, weapons, and filigree-work.

TRADE AND COMMERCE.

Russia has done very much to promote commerce and traffic in Caucasia. Steamers ply on all *Rivers* where the depth of water allows it. The most important of the *Roads* is the military route over the Dariel Pass from Vladikavkaz to Tiflis, which is by no means inferior to the Alpine routes either in boldness of conception or beauty of scenery. *Railways* run from Rostov to Vladikavkaz, and from Poti and from Batûm to Tiflis and Baku. All the principal towns are connected with the neighbouring states by *Telegraph Lines* and a *Postal Service;* and a submarine cable, 170 miles in length, unites the western and eastern shores of the Caspian (Baku and Krasnovodsk).

Baku and *Batûm* are the chief centres of the *Foreign Trade,* while the wretched roadstead of Poti is steadily declining. Foreign flags visit the ports on the Black Sea; but the entire trade of the Caspian Sea (170,000 sq. m.) is monopolized by Russia, for by the Treaty of Turkmantshai the Persians are debarred from launching ships. The Caspian trade naturally gravitates towards the Volga, and is consequently much hampered by the fact that the river is ice-bound for four or five months in the year. About 1800 vessels enter the Caucasian harbours annually. Lighthouses are numerous.

The transport of all non-Russian goods by the Caucasian railways is forbidden.

IMPORTS AND EXPORTS.

The chief *Imports* are colonial produce, cotton and silk fabrics, linen, carpets, metal goods, dyes, tobacco, maize, Persian leather, sugar from Russia, and fruit from Turkey.

The chief *Exports* are *silk*, *flax*, madder (the best in the world), wax, fat cattle, leeches, *caviare*, isinglass, box-wood, petroleum, naphtha, and asphalt.

Subject to Caucasia is the *Transcaspian District*, 195,000 square miles in area, with only 450,000 inhabitants. This region, covered mainly with arid steppes, contains the harbours of Krasnovodsk and Alexandrovsk, and the oasis and town of Merv. Its importance is due to the fact that it is traversed by the railway and other routes to Central Asia.

2. SIBERIA.

Siberia lies between 44° and 77° N. lat. and between 60° and 190° E. long. It is bounded by Russia in Europe (river Ural), the Arctic Ocean, the Pacific Ocean, and the Chinese Empire.

It has an area of 5,000,000 square miles, and a population of 4,000,000, consisting for the most part of nomadic tribes of various races, besides the immigrant Russians, Poles, and Slavs. The Russians, including 100,000 convicts sentenced to banishment, dwell in the south and along the main rivers; the country to the east of the Yenesei is inhabited by Mongolian tribes (Tungusians, Buriats, Yakuts—a Turkish race, and Chukchi); the country to the west of the Yenesei by Finnish (Volugs, Samoyeds, Ostiaks) and by Turkish races (Kirghiz, Tartars).

The southern aborigines are generally Mahometans, the Russians and inhabitants of the cities belong chiefly to the Greek Church, while the most barbarous peoples are still heathens. The efforts to Russify the country have had very wide-reaching effects; they are naturally attended by the extension of the Greek Church. Russian schools are found in all the larger places.

PHYSICAL FEATURES AND CLIMATE.

The river Yenesei divides Siberia into a western and level half, and an eastern and more mountainous half.

The chief mountains in Siberia are, in the west, the Altai (9800 ft.) and Sayan Mountains (12,000 ft.); and to the east of Lake Baikal the Daurian range, continued northwards by the

Yablonoi and Stanovoi Mountains. The isolated mountain district of Kamchatka reaches the height of 15,000 ft.

The *Climate* of Siberia is characterized by long and very severe winters, and by short hot summers. In all parts of Siberia, even in the south, as, *e.g.*, on the upper Irtish, the Amûr, and Lake Baikal, -22° F. and even -40° F. are not uncommonly registered; Verchojansk, to the north of Yakutsk, has the coldest climate in Siberia, with an annual mean temperature of 3·2° F., a mean in January of -56° F., and a maximum cold of -80° F.[1] The rivers in Siberia are frozen for 160 to 200 days in the year. The surface of Northern Siberia is frozen to the depth of 650 ft., and under a mean temperature in July of 68° F. (Yakutsk) barely thaws to the depth of 3 ft. The south of Siberia, which possesses what might be called a severe north-European climate in contrast to the Arctic climate of the north, contains numerous fertile regions; and Western Siberia has even extensive "black-earth" districts (Chernö-Söm) between the Ural and the Yenesei.

RIVERS AND LAKES.

The chief rivers are:—

1. In the basin of the Arctic Ocean.—The *Obi*, with the Irtish and the sub-tributaries Ishim and Tobol; the *Yenesei*, with the Angara; the *Lena*.

2. In the basin of the Pacific.—The *Amûr*, formed by the junction of the Shilka and Argûn, and receiving on its Siberian bank the Sungari and Ussuri. There are also numerous short coast streams.

The largest lake is *Lake Baikal* (13,500 sq. m.; 4000 ft. deep), besides which there are numerous smaller sheets of water. The extreme north is occupied by extensive marshes and "tundras."

DIVISIONS AND CHIEF TOWNS.

The Yenesei divides the country into Eastern and Western Siberia. In the former an Asiatic population is in the majority, in the latter the Russians.

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[1] On January 15th, 1885.

1. **Western Siberia.**—Tobolsk (20,000 inhab.), Ishim, *Tomsk* (34,000 inhab.), Barnaul.

2. **Eastern Siberia.**—Krasnoyarsk, Yeneseisk, Turushansk, *Irkutsk* (34,000 inhab.). In *Transbaikalia:* Chita, Nerchinsk, *Kiakhta*, Blagovyeshchensk (capital of the Amûr district), Yakutsk. On the Pacific Ocean: Petershafen and Paulshafen; in Kamchatka, Okhotsk. Nikolaevsk (5000 inhab.), at the mouth of the Amûr; Vladivostock.

3. **Islands.**—(1) In the Arctic Ocean: New Siberia and the Lyachov Islands. (2) In the Pacific Ocean: Saghalien.

NATURAL PRODUCTIONS.

Siberia must also be divided into a western and eastern half with reference to its productions. The former, the more fertile and the more thickly populated, is chiefly devoted to agriculture (nine-tenths of the inhabitants are tillers of the soil), while mining and hunting are more prominent in Eastern Siberia. All the land, with a few small exceptions, belongs to the crown, which leases it to the separate communes. The land thus obtained by the commune is redistributed among the inhabitants from time to time.

Agriculture, in the European sense of the term, can be carried on only in the south (in the west up to 60° N. lat., in the east to 55°), where most of the ordinary grains, potatoes, onions, melons, etc., are produced. Fruit and vines flourish only in a few sheltered localities on the Ussuri; elsewhere the winters are too cold. Broad *Forests* of cedars, firs, pines, larches, and aspens occupy Central and Eastern Siberia. Dwarf saline plants, herbs, berries, and lichens are all that is called into life by the brief summers in the north.

Domestic Animals are also most numerously bred in Southern and Western Siberia. Western Siberia is said to contain 12,000,000 of such animals, 60% of which are sheep. But the industry is also found in East Siberia as far north as the Polar circle, where the cattle-houses frequently require to be artificially heated. In the north large herds of reindeer are kept, and dogs are bred in Kamchatka for the purpose of drawing the sledges.

Hunting is a very important industry in Siberia, though its produce is declining owing to the reckless manner in which it is carried on.

The *Fisheries*, on the other hand, maintain their productiveness, and support thousands of the inhabitants; sturgeon, sheat-fish, salmon, and omuls (a kind of salmon) are the chief fish captured.

Large quantities of fossil remains, notably the tusks of mammoths and other antediluvian animals (so-called fossil ivory), are found embedded in the frozen soil of the north, especially at the mouth of the Lena and in New Siberia. About one-third of the ivory of commerce is obtained from Siberia, where good tusks are sold for about 20 roubles (£3) per kilogramme (2⅕ lbs.). Some tusks weigh 200 kilog. (440 lbs.).

Siberia shares the mineral wealth of the Ural districts. The extent of the mineral riches that lie concealed in the Altai Mountains and the mountains beyond Lake Baikal cannot yet be even approximately guessed; but the investigations of experts have placed it beyond all doubt that every condition is at hand that is required to maintain a profitable and even a richly-lucrative mining and smelting industry.[1]

The principal mining districts hitherto have been *Barnaul*, *Smyeyinogorsk*, and *Nerchinsk*.

The most important minerals are:—

Gold (discovered in 1840), found to the annual value of £1,500,000, chiefly in Eastern Siberia (near Nerchinsk, in the Amûr district).

Silver (£150,000 to £300,000), chiefly in the Altai Mountains and east of Lake Baikal.

Graphite, in the Sayan Mountains and along the Yenesei. The richest mines belong to the German firm of Faber, and to the Russian manufacturer Siderov. Siberia and Ceylon produce the best graphite in the world.

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[1] Some of the Siberian mines belong to government and some are private property; they are worked partly by free settlers, but chiefly by convict labour. The discovery of gold in Eastern Siberia has attracted population thither also, and the amount of goods demanded by that country has increased twenty-fold. Siberia now ranks as the third richest gold-producing country in the world.

An enormous *Coal-field* stretches from the Altai Mountains and Lake Baikal far into the interior of the country, but it is almost untouched, though capable of maintaining a metal industry on the largest scale.

The extensive deposits of *Iron*, *Lead*, and *Copper* are also but little worked.

Fresh mines are continually being discovered; but a denser population and an easier system of transport are the first requisites for the prosperous development of the mining industry.

MANUFACTURES.

The manufacturing industry of Siberia is almost entirely confined to tanning, tallow-boiling, distilling, brick-making, and ore-smelting. All the gold and silver ore found in Siberia is crushed at *Barnaul* and *Nerchinsk.*

In the south various woven fabrics (*e.g.* carpets), and felt for the tents of the nomadic tribes, are made. Most of the inhabitants manufacture their own clothing, furniture, utensils, etc. Machinery is hardly found at all except at the mines.

The chief impediments to the development of manufactures are the want of good workmen and the costliness of transport.

TRADE AND COMMERCE.

Siberia is most unfavourably circumstanced for trade and traffic. The climate, the sparseness of the population, and the enormous distances between the parts of the country (from the Urals to the Pacific 4300 miles) all militate against the *Domestic Trade;* while the foreign trade is still more hampered by the unfavourable geographical peculiarities of the country. Siberia is separated from the neighbouring states by lofty mountains and by steppes, and the mouths of the rivers in the Arctic Ocean are only occasionally accessible to ships in favourable years. The hopes raised by Nordenskjöld's voyages in the north of Asia have only been very partially realized.[1]

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[1] See foot-note on p. 34.—Tr.

The harbours on the Pacific Ocean are also ice-bound for the greater part of the year; even Vladivostock is only accessible during six months. It is thus only natural that the entire trade of Siberia gravitates towards Russia.

These natural difficulties render the efforts of the Russians to facilitate traffic and to promote trade all the more creditable. The following are the principal commercial routes traversing Siberia:—

1. From Orenburg to Semipalatinsk, and thence to the borders of the Chinese Empire.

2. The great route from Ekaterinburg to Omsk, Tomsk, Krasnoyarsk (on the Yenesei), and Irkutsk. Irkutsk is an important focus, whence roads diverge in three directions: southwards to Kiakhta (and China), eastwards to the Pacific, and northwards to Yakutsk.[1]

3. The northern route from Irbit to Tobolsk, beyond which it joins the preceding between Omsk and Tomsk.

4. A fourth route, practicable only in summer, is offered by the rivers Angara, Yenesei, Ket, Obi, Irtish and Tobol, and Tura. All these are navigated by steamers, and in this way regular steam communication is maintained between the Urals and the Pacific Ocean, interrupted only here and there by short portages.

About 100 steamers now float upon Siberian streams, and every attempt to utilize the rivers for export purposes is actively supported by government.

Telegraph Lines and *Post-routes* connect all the principal towns in Siberia, and are continued into China and Central Asia.

Railways have scarcely begun to be built. A line now runs from Perm to Ekaterinburg and Chumen; but the projected trans-Siberian railway will probably be long of becoming an actual fact. Its construction will hardly alter the conditions of the Siberian export trade, for even with railway transit the great Siberian products (grain, timber, and metals) could not be brought cheaply enough to the markets of Western Europe.

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[1] Chumen lies 1850 miles from Irkutsk, a distance traversed by couriers in 20 days, by the post in 34 days. and by sledge-caravans in 3 months.

The wholesale trade in Siberia is chiefly in the hands of Russian firms at Moscow, Nizhni-Novgorod, Irbit, etc.; while the retail trade is carried on by Siberian merchants, the cunning "Siberyaks," who penetrate as far as the peninsula of Chukchen and Kamchatka.

The principal *Commercial Centres* in Siberia are Chumen, Tomsk, Irkutsk, Yakutsk, and Kiakhta. The last, opposite the Chinese town of Maimatchin, is still, in spite of the direct sea-route, the chief emporium for the trade between Russia and China. Its fair in December is visited annually by 20,000 merchants, with at least 70,000 beasts of burden; and the turn-over is estimated at from £1,500,000 to £2,250,000. The Chinese bring tea (70% of the total value), rhubarb, musk, silk, porcelain, etc.; the Russians bring cloth, plush, metal goods, and fossil ivory.

As already indicated the chief *Exports* from Siberia to Europe are furs, hides, skins, tallow, train-oil, eider-down, fossil ivory, metals, graphite, and the Chinese imports ("caravan tea," etc.).

The *Imports* from Europe include wine, coffee, sugar, spices, and European manufactures of all kinds.

3. CENTRAL ASIA.

Central Asia, with the Turkoman Khanates of Khiva and Bokhara, which are simply Russian tributary states, embraces an area of 1,172,000 square miles, with a population of 5,200,000 (4·5 per sq. m.). The inhabitants are almost exclusively Kirghiz and Turkomans, with some Tartars; the Russians only occupy the most important commercial and strategic points.

Central Asia forms the nucleus whence the Russian power extends uninterruptedly towards British India on the one hand, and towards the Persian Sea on the other. The process of acquisition and the work of Russification goes here noiselessly on, and the outer world often hears of the accomplished fact years after the event.

The only mountainous part of the country is the south-east, where the mountains of the Pamir plateau rise to the height of upwards of 19,680 ft. The remainder of the surface is covered by boundless plains and steppes (interrupted by salt deserts), where the wandering Kirghiz tribes rear huge herds of camels, horses, sheep, and horned cattle. Only a small portion is capable of cultivation, chiefly the well-watered river-valleys. The Sea of Aral, lying to the west, receives the Syr-Daria (Jaxartes, 1350 miles long) and the Amu-Daria (Oxus), with its tributary the Serafshan. The Illi flows into Lake Balkash.

The extremes of *Climate* are very severe. The *Rainfall* is very slight; whole summers sometimes pass with hardly a drop of rain on the steppes. The climate is, however, milder than that of Siberia, and in the above-mentioned irrigated valleys not only all kinds of grain, but also tobacco, cotton, mulberries (for the extensive silk-worm culture), and even southern fruits are produced. These valleys also produce the valued Turanian woven stuffs (carpets and leather).

The Russian possessions in Central Asia are divided into two districts:—

1. The **Kirghiz Steppes**, comprising four provinces, the respective capitals of which are Semipalatinsk, Akmolinsk, Uralsk, and Omsk (31,000 inhab.).

2. **Turkestan**, forming a governor-generalship, the chief towns of which are Hazret-Turkestan (the capital), Tashkend (100,000 inhab.), Samarkand (36,000 inhab.), Khokand, and Chodshent.

Turkestan is a region of great importance in the Russian Asiatic trade, for it is traversed by the routes from Orenburg and Western Siberia to Bokhara, Balch, Kabul (and India), Kashgar, and Yarkand. The commercial centre of the country is the wealthy *Tashkend*, where the wares of *Bokhara* (silks and cottons), *Persia* (pearls, precious stones, and weapons), and *India* (spices, indigo, woven goods, works of art, etc.) are brought together and exchanged for European products imported from Russia.

The important trading towns of Semipalatinsk and Omsk are situated on the Irtish.

The traffic is carried on mainly by means of caravans, to which the Kirghiz are of the greatest service in providing the necessary beasts of burden.

The shipping trade on the Irtish is active; and Russian steamers ply on the Sea of Aral and the lower course of the Syr-Daria.

The unceasing advance of the Russians in Central Asia is a double source of disquiet to Great Britain. For there are political considerations involved in the approach towards India, and there are commercial considerations involved in the fact that the Russian protective system advances with the Russian frontier. Every square mile occupied by Russia in Central Asia is a fresh loss to British trade. The Russians have constructed here an important railway, partly out of a desire to invigorate and facilitate trade, but not less for strategic reasons. It now extends from the Caspian Sea to Samarkand, passing through the oasis of Merv and crossing the Oxus. It will probably be extended on the one hand to Tashkend and on the other to Herat. Herat is only about 600 miles from the frontier of British India, and not 700 miles from the Indian Ocean. The portion of the railway actually completed is one of the greatest triumphs of railway engineering, owing to the great climatic difficulties met and overcome, and it has encouraged trade and commerce to a most remarkable extent.

Every acquisition by Russia in Central Asia is an acquisition for the Russian merchant and manufacturer. In order, however, properly to understand the Russian protective commercial policy, it must not be forgotten that the huge "Holy Russia," with its 105,000,000 inhabitants, forms an immense compact economical district, which is in many respects entirely self-sufficient, and far less dependent upon foreign countries than any state in western Europe.

ASIA.

THE CHINESE EMPIRE.

This huge empire, bounded by the Pacific Ocean (for a distance of 3000 m.), Indo-China, British India, Afghanistan, and Asiatic Russia, has an area of 4,530,000 square miles, and contains 403 million inhabitants, or about one-fourth of the entire population of the globe.[1]

The empire consists of the following parts:—*China Proper, Manchuria, Mongolia, Tibet, Zungaria,* and *Eastern Turkestan.* China Proper has an area of 1,562,000 square miles, and a population of 382 millions. The density of population varies greatly. The rate in China proper is 243 per square mile (in some provinces even as high as 1024 per square mile), while in Eastern Turkestan and Mongolia it sinks to 1¼ per square mile. The *Foreign Population* does not exceed 7000, one-half of whom are British.

1. CHINA PROPER.

POPULATION.

An overwhelming proportion of the population belongs to the Mongolian race, the only exceptions being a small number of Caucasians in the western part of the empire, and the Malays of a few islands.

The state religion of China is that of Confucius (Kung-Fu-Tse); but Buddhism (Buddha-Fo) and Taouism also count millions of adherents. As, however, these religions are frequently amalgamated with each other, great practical uniformity prevails in matters of religion, in which, moreover, the Chinese are decidedly lax. Christianity is disliked, and has not more than 1,100,000 adherents.

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[1] Some travellers consider that this estimate of the population of China is too high by 25 or even 50 per cent. This point, however, like many others connected with China, cannot be settled until we obtain more information about the interior of the country.

In point of *Civilization* and *Education* the Chinese have attained an extraordinary high level. Each village has its school, and reading and writing are universal in spite of the difficulty arising from the fact that each word has its own written character, the total number of such characters being 80,000. Admission to all official positions is dependent on a high state of education tested by stringent examination; and in no other country of the world is learning held in such high esteem as in China. Other characteristic features of the people are industry, docility, temperance, and frugality. Though the Chinese are thus emphatically entitled to rank among the intelligent races of mankind, they still possess several less estimable qualities which cast an almost unrelieved shadow on their character. Among these are their exaggerated utilitarianism, their rigid adherence to the old and fanatical opposition to the new, their profound and senseless self-sufficiency, their cunning, their cruelty, their indulgence in opium-smoking, and their passion for gambling.

The Emperor of China is treated with divine honours, and is considered a "Son of Heaven." The real rulers are the officials, who are under the superintendence of a board of 40 or 50 censors. The government officials are named "*Mandarins*" by Europeans.

The Chinese are probably the oldest civilized race known to us, but their culture has stood still for centuries. They despise all that is foreign, and strive to preserve their country free from the taint of European influences. Over-population forces immense numbers of them to emigrate, at least for a time; but the white races, especially in North America and Australia, are beginning to take active steps against this Mongolian invasion.

PHYSICAL FEATURES.

China and Manchuria occupy the country interposed between the Pacific Ocean on the one side, and the Jungling Mts., the impassable eastern boundary of the great mountain-region of Central Asia, on the other. The Jungling range sends off two great chains towards the west: the Peling (or Foonoo-Shan) in the north and the Nanling in the south, the Meiling and other spurs of the latter stretching north-eastwards till they reach the sea. To the north of the Peling the Jungling range is interrupted by the valley of the Hoang-ho, where the Great Wall of China offers an almost insurmountable barrier to the incursions of the mounted hordes of the interior of Asia. To the north of the Hoang-ho the range is continued by the Chingan Mts., which attain a considerable height and stretch as far as the Amûr. Between the Chingan Mts. and a parallel chain on the coast lies the lofty table-land of Manchuria. To the north of the Meiling Mts. extends a vast plain, stretching beyond the mouth of the Hoang-ho, and comprising large tracts of fertile alluvial soil ('lœss').

RIVERS.

China Proper possesses a great number of rivers, including two streams of the first rank, the *Yang-tse-kiang* and the *Hoang-ho.* The former, together with its tributaries, affords the greatest facilities for internal navigation. The Hoang-ho, on the other hand, is little more than a torrent in its upper part, frequently overflows its banks, and carries along with it huge masses of mud and debris. It is therefore of little use for navigation, and is significantly named the "anxiety of China." The Sikiang and the Peiho also deserve mention.

For purposes of commerce and agriculture China Proper is covered with a net-work of canals, at least 400 of which are known to us by name. The most important is the great *Emperor Canal* (or *Grand Canal*), uniting the Peiho with the Hoang-ho and the Yang-tse-kiang, which is 1400 miles long and 20 ft. wide. This stupendous canal, which is long enough to connect the Baltic Sea with the Adriatic and the Black Sea, has lost much of its importance through the development of the coasting trade and is now in a sadly neglected condition.

CLIMATE.

The climate of China varies greatly, owing to the vast extent of the country (stretching from 20° to 53° N. lat.) and to the diversity of its surface elevation. On the whole, however, the continental climate observable in places on the east coast is the most characteristic and prevalent. Canton has a mean annual temperature of 70° F., Peking of 50° F. The southern coast districts lie within the region of the south-west monsoon, and frequently suffer in July, August, and September from the devastating effects of the typhoon. Rain follows the monsoon, and the summer is thus the rainy season. Snow falls even in the southern districts. The maritime districts are well watered, but the interior of the empire suffers greatly from drought.

CHIEF TOWNS.

China Proper, which is divided into eighteen provinces, contains one-fifth of all the towns on the globe with upwards of 100,000 inhabitants. A few Chinese towns have a population of 1,000,000 or more.

Peking, the capital of the empire and residence of the emperor, has a population variously estimated at from 700,000 to 1,600,000 souls. Other large towns are Tientsin (1,000,000 inhab.), Nanking (1,000,000), Hangkow (700,000), Ichang, Soochow, Shanghai (400,000), Foochow, Amoy, Swatow, and Canton (1,600,000). The island of Taiwan or Formosa and the island of Hainan also belong to China.

NATURAL PRODUCTS.

1. **Vegetable Products.**—Agriculture forms the occupation of the great bulk of the inhabitants. The minute and careful system of husbandry gives employment to innumerable day-labourers, whose social condition, however, in spite of the almost incredible cheapness of living, is very inferior to that of their European brethren. This fact is the main cause of the extensive emigration from China.

The most important articles of vegetable diet are *Rice*, *Wheat*, and various kinds of *Leguminous Plants.* Fruit and vegetables also form an important part of the daily food. A failure of the harvest entails the death from starvation of thousands of persons.

Tea not only forms the daily beverage of the Chinese of every class, but is the chief staple of the foreign commerce of the country, China still being by far the most important tea-growing district of the globe.[1]

Other vegetable products of commercial importance are cotton ("Nankeens"), tobacco, sugar, cassia, the various fibrous plants used in the manufacture of paper, gutta-percha, camphor, rhubarb, opium (in increasing quantities), etc. Among the plants peculiar to the country are the tallow-tree, various kinds of bamboo, and those which produce lac.

The forests of China have been cut down with little regard to replanting, and the value of timber is thus high.

2. **Animal Products.**—The *Silk-worm* is one of the great sources of China's commercial wealth. The yearly produce of silk amounts to about 22,000,000 lbs., nearly half of which is exported. The culture of the silk-worm has been practised in China from time immemorial, and China now provides the great bulk of the raw silk used in the manufactories of Europe.[2] The ordinary domestic animals are comparatively scarce in China, owing partly to the absence of pasture and partly to the fact that the Chinese eat little flesh. Pigs and buffaloes, the latter used in the cultivation of the rice-fields, are, however, bred in considerable numbers. Large quantities of all kinds of poultry are also reared.[3] Fish is a staple article of food. Game is found chiefly in the southern provinces.

3. **Mineral Products.**—China possesses great and varied mineral treasures, the mining and use of which have been carried on for thousands of years.

Among these are gold, silver, lead, quicksilver, iron, zinc, precious stones, graphite, meerschaum, and amber. The arts of carving *Jade*, and of manufacturing *Kaolin* or *China Clay* into beautiful porcelain, have been known to the Chinese from the earliest times.

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[1] Fuh-keen is the chief tea-producing province. Bricks of compressed tea are used as money in N. Asia.

[2] The empress is regarded as the patroness and protectress of the silk-worms, some of which are reared by almost every husbandman in China.

[3] Golden and silver pheasants are indigenous to China.

Another source of mineral wealth of the very highest importance is found in the vast coal-fields, which, according to Richthofen's investigations, surpass both in quantity and quality all other coal districts known. Each of the eighteen provinces is rich in coal,[1] and the disposition of the strata is generally well adapted for exploitation. These coal-beds have been worked by the Chinese from time immemorial, but to a very insignificant extent (3,000,000 tons per annum). The cost of transport overland is so high that English coal can be sold more cheaply than Chinese in the seaports. Iron of admirable quality is often found amid the carboniferous strata. Of late years some attempts have been made, both by foreigners and natives, to introduce the European methods of mining in place of the primitive and ineffective system of the country; but the Chinese still look askance at all such foreign innovations.

MANUFACTURES.

When the Europeans first entered into closer relations with China they found existing in the country a highly-developed though unprogressive industry, which dated its beginnings from before the dawn of history, and satisfied the numerous, and often highly-refined, requirements of the inhabitants. The introduction of European wares was thus a long and tedious process, though now various articles of western manufacture have succeeded in making good a position in the Chinese market. The Chinese themselves are also beginning to imitate European goods and to introduce the use of machinery; and their acuteness, diligence, and technical dexterity make them apt and successful pupils.

Among the articles in which the native manufacture is still superior to the European are the following:—

Silk Stuffs, with the finest embroidery and in shades of colour that the Europeans cannot reproduce.

Porcelain, the chief factory for which is the imperial establishment at Kungchow.

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[1] The entire area of the coal-fields is estimated at 195,000 square miles. The seams of anthracite are frequently 12–15 ft. thick.

Paper, made from bamboo, the inner bark of the mulberry-tree, hemp-fibre, rattan, straw, etc. This product has been manufactured since the second century of the Christian era, and of such admirable quality that it is exported to Europe and America in steadily-increasing quantity.

Carved Articles in wood and ivory, knick-knacks and fancy goods of various kinds; *Lacquered* and *Gilt Wares*, *Artists' Colours*, *Sepia*, etc.; *Inlaid Metal Work*.

The manufacture of *Paper Lanterns* is a characteristic industry, which employs thousands of workmen.

Almost the entire industry of China is in the hands of small craftsmen, and the tendency to combine for the purpose of manufacture on a large scale, which is characteristic of the Chinese elsewhere, is almost unknown in their own country. The products of the Chinese industry are marked by good and solid workmanship, and the inferior imitations of European manufacture find it impossible to compete with them in their native markets.

TRADE AND COMMERCE.

The **Domestic Trade**, which is daily increasing in interest for Europeans, is greatly facilitated by the extensive system of natural and artificial water-ways. The chief artery of traffic is the *Yang-tse-Kiang*, 3000 miles long, on the banks of which dwell 100 millions of men.

The *Roads* are for the most part poor and badly kept, but generally present a scene of busy traffic, in which men frequently supply the place of beasts of burden. The construction of *Railways* has hitherto met with the most obstinate opposition, both from the government and the people, partly from a superstitious dread of disturbing the slumbers of the dead. The only existing railway is a short mineral line (8 miles long) connecting the mines of Kaiping with the sea, by which, however, passengers are also carried. The opposition to the introduction of *Telegraphs* is, however, relaxing, and the more important towns have telegraphic communication with each other. The *Postal System* of China is of the most hoary antiquity.

There are in all about 10,000 post-offices, frequently managed by the local authorities.

The internal trade of this densely-populated country is naturally very active. It is entirely in the hands of the Chinese themselves, who are at least the equal of Europeans in the art and science of trading.

It would, of course, be a thing of the utmost importance to Europeans to secure the right of introducing and selling their goods without the interposition of a middleman. At present, however, the only concession made to Europeans in this respect is the right of navigation on the Yang-tse-Kiang as far as Ichang. (The Russians enjoy some special privileges.) We have already mentioned the efforts made by the French in Tonquin and the English in India to penetrate south-western China and enter into direct commercial relations with these rich provinces.

The **Foreign Trade** is, of course, mainly carried on by sea, as China is separated from its neighbours on the land side by deserts and chains of lofty mountains. Down to the middle of the present century Canton was the only port open to European trade; but most of the once strictly closed harbours have been thrown open to all seafaring nations, and the external trade of China is daily assuming larger proportions. Various treaties (1858–77) provide for the complete security of the foreign traders and for the opening of most (21) of the seaports. Foreigners are permitted to settle in the opened towns, and the practice of the Christian religion is allowed.[1] All the great commercial nations have consuls in China, and the chief questions of customs tariff are superintended by a mixed board; the maritime police in the Chinese waters is also in the hands of Europeans, and all the restrictions and annoyances to which traders were formerly exposed have ceased.

Among the so-called "Treaty Ports" the following are the most important:—

Shanghai, at the mouth of the Yang-tse-Kiang, has rapidly risen to the position of chief seaport of the empire, absorbing one-half of the entire foreign trade. It is at once the chief export-harbour for silk and tea and the chief import-harbour for opium and textile goods. It also carries on a brisk trade with Japan. Vessels with an aggregate burden of 3 million tons annually enter and clear the port.

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[1] The Russians have also secured permission to settle in the interior.

Tientsin, though naturally a poor harbour, carries on a considerable import trade, and is of importance as the emporium of the trade with Russia, the goods being sent on hence to Kiakhta.

Hangkow, on the Yang-tse-kiang, has steamboat communication with Shanghai.

Amoy, *Foochow*, and *Swatow* may also be mentioned. Canton, though still the chief industrial city of the empire, has less maritime commerce than any of the above-mentioned ports.

Regular communication between Europe and the Chinese ports is kept up by the Peninsular and Oriental Co., the Royal Mail Steam Packet Co., the Union Steamship Co., the Messageries Maritimes, the Navigazione Generale, the Austria-Hungarian Lloyd, the North German Lloyd, the Hamburg Rheder, etc.

In 1891 the number of ships that entered the Chinese ports was 33,992, of 27,700,000 tons burden. Those under the British flag were by far the most numerous (17,700 ships of 17,400,000 tons); next in order come the Chinese, German, Japanese, French, and American.

The chief *Overland Routes* of commerce lead *viâ* Maimatchin to Siberia; from Yunnan to Farther India; through Tibet to British India; and through Mongolia and Turkestan to Iran.

EXPORTS AND IMPORTS.

The total annual value of the exports of China is given at 77 million haikwan taels (about £22,000,000), of the imports 88 million haikwan taels (£25,000,000). These amounts, however, are exclusive of goods carried in Chinese vessels.

The chief *Exports* are:—*Tea*, of which upwards of 220,000,000 lbs. (value £11,000,000), are annually sent out of the country, one-third of this amount going to England and British colonies, one-fourth to North America, and the rest to Russia. *Silk* (13,200,000 lbs.; value £9,000,000), sent mainly to England, the United States, Germany, and France. Next to these, but much less important, are *Sugar*, cassia, musk, rhubarb, manufactured silk-goods, nankeens, porcelain, carvings, paper, lacquer-work, colours, etc.

The chief *Imports* are:—*Opium*, which is brought from India annually to the value of £7,500,000 or £8,000,000;[1] *Cotton Goods*, woollen goods, metals and metal goods, furs, spices, trepang (bêche-de-mer), edible birds'-nests, wine, petroleum, etc.

China is a great absorbent of gold and silver (especially the latter), which flow into the country in much greater quantity than they flow out again.

About 75% of the commercial intercourse of China is with Great Britain and her colonies; next in order come France (10%), the United States, and Germany. It should be noted, however, that many manufactures of the Continent of Europe reach China through British intermediaries. The number of European vessels engaged in the Chinese coasting trade is very considerable.

II. MANCHURIA.

This territory, which is of growing commercial importance, has an area of 390,000 square miles and a population of 22,000,000. Its chief mercantile products are beans (or peas), bean-cake, ginseng (a medicinal plant), silk, skins, furs, etc. Chinese and European articles are imported.

Mukden is the capital and chief trading mart, and Niuchwang is a treaty port. Immense numbers of Chinese have recently settled in Manchuria.

III. MONGOLIA.

Mongolia consists of a great table-land, 2500 to 6500 ft. above the sea-level, a large part of which is occupied by the waterless

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[1] This represents, however, only one-third of the consumption, the rest being raised in China itself in spite of prohibitive laws.

Desert of Gobi or Shamo. The climate is very dry, the annual rainfall not exceeding 6 inches. The mean annual temperature at Urga is 27·5° F.

The nomadic and scattered population of this extensive district (1,320,000 sq. m.) is about 2,000,000 only. Good pastures and arable land abound. The chief wealth of the inhabitants consists in horses (some individuals possessing as many as 20,000), camels, and sheep. The ginseng root of Mongolia is highly prized by the Chinese, who formerly gave its weight in gold in exchange. The imports, consisting of tea (brick-tea used as currency), tobacco, textile fabrics, etc., are introduced by Russian and Chinese merchants. The chief commercial importance of Mongolia, however, lies in the fact that it is the highway for the inland trade between Russia and China. The post takes 13 days to go from Kiakhta to Peking, caravans 37 days.

The chief towns in Mongolia are Kalgan, Urga, and Maimatchin (Kiakhta).

IV. TIBET.

Tibet, or Thibet, consists of huge parallel valleys, 10,000 to 15,000 ft. above the sea-level.[1] On the S. it is bounded by the Himalayas, and on the N. it is separated from Eastern Turkestan by the Kuenlun. Between these two great ranges runs the Kara-Korum, rising in the Dapsang to a height of 28,000 ft. The rainfall is very insignificant, amounting only to 1½ inch; the climate is one of extremes, and snow falls for nearly six months in the year.

The chief products of Tibet are wool, the hair of the Cashmere goat (known as "peshm"), musk, rhubarb, and asafœtida. The extensive gold-fields are also very productive.

A constant stream of caravans flows between Tibet and China, but there is no intercourse with any part of India except Cashmere. The chief mart is *Lhassa*, the seat of the "Dalai Lama."

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[1] The area is estimated at 650,000 square miles, the population at 6,000,000.—TR.

V. ZUNGARIA.

This district, which lies on the river Ili, to the N. of the Thianshan, is 156,000 square miles in area and contains 600,000 inhabitants. It has no commercial importance.

VI. EASTERN TURKESTAN.

Eastern Turkestan, also known as *Little Bokhara* or *Upper Tartary*, has an area of 430,000 square miles, but only about 600,000 inhabitants, most of whom are of Turko-Tartar race. It is bounded on the W. by the plateau of Pamir, on the S. by the Kuenlun, and on the N. by the Thianshan, and thus coincides roughly with the basin of the Tarim, including the marshy lake Lob-Nor.

The climate is marked by extremes of heat and cold, the temperature of summer being so high (mean temp. in July, 78·5° F.) as to prevent work in the open air, while the mean temperature of January is – 13° F.

The influence of Russia, which is paramount in Western Turkestan, is also sensibly felt in this district, which carries on an extensive transit trade, and is of great importance for the access it affords to Central Asia.

The chief towns and centres of trade are Kashgar, Yarkand, and Iltshi.

The exports consist mainly of wool, silk, hides, and other animal products, and of a few manufactured articles such as felt and carpets. The transit and import trade is chiefly concerned with manufactured or half-manufactured goods from Russia and with tea from China.

COREA.

This mountainous peninsula, which has hitherto had very little intercourse with other countries, has an area of 85,230 square miles, and contains 7,300,000 inhabitants, most of whom are Buddhists. It is not particularly fertile, but produces rice, tobacco, and cotton.

The capital, Seoul, contains between 200,000 and 250,000 inhabitants. The three seaports of Jenchuan or Chemulpo (near Seoul), Fusan, and Yuensan, are open to foreign traders.

The chief imports are copper, tin, cotton fabrics, glass, and matches; the chief exports, gold-dust, hides, rice, and horses.

JAPAN.

SITUATION AND AREA.

Japan (called Nippon by the natives), is, like Great Britain, an island kingdom, and consists of four large islands and a great number (stated at 3856) of smaller ones. It lies between 24° and 46° N. lat., and between 128° and 141° E. long., and its area is estimated at 150,000 square miles. The population is 38,000,000, showing a density of about 253 per square mile. The foreigners in the country number about 7000, including 4000 Chinese and 1500 Englishmen and Americans.

POPULATION.

Like the Chinese, the Japanese belong to the Mongolian race.[1] Most of them profess Shintoism, but the various sects of Buddhism have also numerous adherents. The attempts to propagate Christianity have hitherto had little success.

In regard to *Intellectual Development* the Japanese are superior to the Chinese; indeed they are the most advanced and highly-gifted people in Asia. Education is universal. Of late numerous European books have been translated into Japanese and used as text-books in the native schools. The complete revolution through which Japan has passed in all fields of political and social life since 1854 forms a unique phenomenon in the history of the world. Though up to that time jealously barred against all intercourse with the rest of the globe, the Japanese have since shown the greatest eagerness to adopt all the advantages of European civilization. The Mikado, or emperor, formerly revered as a god but possessing no substantial power, has succeeded in making himself the real governor of the country, and he is the chief patron and protector of the social revolution. These extensive innovations have, of course, many opponents, especially among the nobles and the Buddhist priests; but the critical question for the future of Japan seems to be whether Japanese intelligence will be able permanently to work successfully with the implements of modern civilization, or whether financial embarrassment will lead to the gaining of influence by foreign powers.

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[1] Though belonging to the Mongolian race, the Japanese are superior both physically and mentally to most of the Mongolian types. Their civilization resembles that of China in many important respects, and like it boasts of a hoary antiquity. The kingdom also contains about 30,000 copper-coloured *Ainos*, who are supposed to be the aborigines of Japan.

PHYSICAL FEATURES.

The islands of the Japanese archipelago are mountainous, a few volcanic summits, such as Fusi-Yama, reaching a height of 12,000 ft.

There are no large *Rivers*, but numerous mountain torrents with short but rapid courses. The country is irrigated by an extensive system of canals.

The climate, which is very moist, is cooler than that of countries under the same degrees of latitude in Europe or the north of Africa. The mean temperature of Nagasaki in January is 42·8° F., in July 75° F.

PRINCIPAL DIVISIONS AND TOWNS.

1. On *Honshiu* or *Niphon*, the largest island, are the towns of *Tokio*, formerly called Yeddo, the residence of the Mikado, with (1886) 902,000 inhabitants; *Yokohama* (70,000 inhab.); Kioto, formerly named Miako (255,000); *Ozaka* (353,000); and Hiogo or Kobe.
2. On the island of *Kiushiu* is the port of *Nagasaki* (40,000). Adjacent is the small Dutch island of Desima.
3. *Shikoku* or *Sikok*, with the town of Tosa.
4. *Yezo*, with the towns of Matsmae and Hakodate.

To Japan belong also the Riukiu or Loochoo Islands, the Bonin or Ogasawara Islands, and the Kurile Islands.

NATURAL PRODUCTS.

The practice of *Agriculture* has attained a very high level in Japan, and is carried on with extraordinary and painstaking minuteness. Mountains are diligently cultivated up to their very tops, and bare rocks are covered with soil brought from a distance. The whole of the land belongs to the state, and is farmed out to the tillers for a large land-tax. The cost of living, formerly extremely low, has increased so rapidly in the new commercial era inaugurated in 1854, that the social conditions of the country have been almost completely revolutionized.

The chief crop is *Rice*, generally of excellent quality. The various cereals of Europe are also grown with success, and also vegetables (such as the sweet potato), *Cotton*, hemp, camellias and other flowers and ornamental plants, and tobacco.

The art of forestry also flourishes among the Japanese. Besides most of the trees familiar to Europeans, may be mentioned the mulberry, the camphor-laurel, the varnish-tree, and the wax-tree.

The chief vegetable product from a commercial point of view is, however, *Tea*, which is exported annually, chiefly to America, to the value of £800,000–£1,200,000.

Cattle-rearing is little prosecuted, as the Japanese seldom eat meat.

The most important members of the animal kingdom are *Silk-worms*,[1] *Bees*,[2] ducks, and fowls. The number of horses, cattle, and sheep (the last introduced a few years ago only) is insignificant. Fish is an important article of diet. Stags, hares, antelopes, bears, foxes, and game of all kinds are abundant.

The *Mineral Wealth* of Japan, though hitherto explored only by a superficial geological survey, is undoubtedly very great. Vast stores of coal, iron, copper, and petroleum were discovered, and gold, quicksilver, and sulphur were also found.

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[1] The Japanese silk-worm, *Bombyx yama maya*, lives chiefly upon oak-leaves.

[2] The Japanese bee, *Coccus pela*, lives on the leaves of a variety of ash, and is kept chiefly for its wax.

Mining has now, however, begun to be carried on with fresh and greatly increased vigour; the improved appliances of America and Europe have been introduced, and many mines have been handed over to foreign management.[1]

MANUFACTURES.

When the Europeans first discovered Japan, they found a highly developed and characteristic native industry in existence, resembling that of China, but superior to it in many points. Like the Chinese, the Japanese have shown themselves able to meet their various and complex requirements with ingenuity, dexterity, and taste. Among the chief of these native manufactures may be mentioned—*Silk* and *Cotton Fabrics*, *Lacquer-work*, inlaid and other *Works in Copper*, *Paper* (made from various fibrous plants), weapons, musical, astronomical, and physical instruments, etc. Most of these articles are produced in such excellent quality, and at so moderate a cost, that European imitations find no market in Japan.

The more intimate relations into which Japan has recently entered with Europe and America have immensely modified the state of affairs in Japan, in the field of industry as in other departments. The Japanese were quick to apprehend the advantages of European methods, and their extraordinary dexterity and diligence have enabled them to apply them with great success. So soon as the Japanese recognize the usefulness of any European product (such as cloth), they immediately set to work to reproduce it themselves, the result being that the importation of the article in question gradually ceases. Thus the Japanese have not only imported numerous European steam-engines, steam-hammers, and the like, but they have themselves erected and fitted up machine-shops, glass-works, cloth-factories, silk-spinning mills, etc., after European models. So far indeed has this process of turning the tables extended, that Japan actually exports imitation Swedish matches and Bohemian glass to Europe.

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[1] The annual output of coal is now upwards of 1,000,000 tons.—TR.

TRADE AND COMMERCE.

1. **Domestic Trade.**—The internal trade of Japan, carried on partly by sea between the different islands, and partly by land between different parts of the larger islands, is very brisk. It is facilitated by excellent high-roads, by a well-arranged postal system (with about 5000 post-offices), and numerous fairs and markets. The Japanese, more progressive in their ideas than their Chinese neighbours, already possess about 1500 miles of *Railway*,[1] the chief lines being those from Yokohama to Tokio, and from Hiogo to Ozaka and Kioto. All the more important commercial centres are connected with each other by *Telegraph* (310 offices, 22,800 m. of wire in 1890). From Nagasaki a submarine cable extends to Shanghai and Hongkong and another to Vladivostock.

2. **Foreign Trade.**—For several centuries the Dutch were the only European nation allowed to trade with Japan, and they were confined to the islet of Desima, in the harbour of Nagasaki. Now, however, almost all the countries of Europe have entered into commercial treaties with Japan, and the ports of Yokohama, Hiogo, Ozaka, Tokio, Nagasaki, Niigata, and Hakodate, are freely open to Europeans and Americans.

Regular steamboat communication is maintained between Japan and Southampton, Marseilles, and San Francisco, the last-named port being within 15–20 days' steaming from Yokohama.

Yokohama is by far the most important commercial port of Japan, absorbing alone about 70 per cent of the foreign trade. Next in order come Hiogo-Ozaka[2] and Nagasaki. The latter is the chief manufacturing town of Japan, and also the most important centre of the internal trade.

In 1890 the number of vessels that entered the treaty ports under the Japanese, British, German, and other flags was 2254, with an aggregate burden of 1,742,000 tons. The commercial fleet of Japan consists of 1450 vessels, aggregate burden 145,700 tons. Among these are four large mail-steamers, and

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[1] Not yet, however, all in operation.—TR.

[2] Regarded as a single port.—TR.

41 smaller steamers, belonging to the "Mitsu-Bishi-Shokuwai," a native company, which employs many Japanese captains and engineers, and competes successfully with foreign lines. The vessels of this company frequently visit Europe and America.

The number of *Foreign Residents* in Japan in 1891 was about 9707, more than half of whom were Chinese. The Chinese merchants are formidable rivals of the Europeans, and extend their dealings not only to their own country, but also to Siam and even farther.

English is the ordinary medium of communication between the Japanese and foreigners (but German is also used). The unit of the new coinage is the *Yen*,[1] the value of which is the same as that of the American trade dollar; it is divided into 100 *Sens*.

IMPORTS AND EXPORTS.

The chief *Exports* are *Raw Silk* (2,200,000 lbs., valued at £3,167,000; sent mainly to England and France), silk-worm eggs, *tea* (37,000,000 lbs., valued at £1,335,000, chiefly to the United States and England), rice, wheat, camphor, vegetable wax, seagrass (*Zostera marina*), copper, and coal.

The *Imports* include cotton goods to the value of £1,500,000 (chiefly from England and Holland), woollen goods (Germany), metals and metallic wares (England and Prussia), petroleum, arms, rice (from Siam and Cochin-China), raw cotton, and sugar.

The value of the imports in 1891 amounted to 63 million yens (about £10,500,000), of the exports to 78 million yens (£13,000,000).

England, the United States, Holland, and France have the lion's share of the foreign trade with Japan.

SIAM.

The Kingdom of Siam has an area of 285,000 square miles, and contains 6,000,000 inhabitants, one-fourth of whom are Chinese. The prevailing religion is Buddhism, and the social conditions resemble those of India.

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[1] Nominal value 4s., actual value about 3s. 4d.—Tr.

Two large rivers, the Menam, flowing into the Gulf of Siam, and the Mekong, farther W., water this country. Of the latter, however, the middle course alone belongs to Siam, the lower course lying in Cochin-China. The inundations of the Menam have the same importance for Siam as the rising of the Nile has for Egypt. Only a very small part of this exuberantly fertile country is properly cultivated.

Commercial Relations.—The entire trade of the country is concentrated at *Bangkok*, a maritime town with about 600,000 inhabitants. The Siamese themselves engage little in commerce, the trading class consisting almost wholly of Chinese. Among the few Europeans firms the most important belong to Englishmen or Germans.

The great bulk of the trade is carried on with China, the Chinese customs of the inhabitants creating a demand for Chinese imports. The trade with India is less important.

The export trade to Europe has of late been steadily increasing. There is no direct import trade from Europe to Siam, European products reaching the latter *viâ* Singapore or Hongkong.

The chief *Exports* are rice (the chief product of the country; £1,000,000), sugar, pepper, sesame, sapan-wood, teak; cardamoms, cocoa-nut oil, and hides. The total value of the exports in 1891 was £1,700,000.

The annual value of the imports, consisting of textile fabrics, metal ware, and arms, amounts to about £1,300,000.

About 50 per cent of the foreign trade of Siam is carried on under the British flag, that of Germany coming next in order among European nations.

PERSIA, AFGHANISTAN, BALUCHISTAN, KAFIRISTAN.

These four states may be conveniently treated of together, as occupying the extensive Iranian plateau, which lies between 25° and 40° N. lat., and between 44° and 73° E. long. Their respective areas and populations are as follows:—

1. **Persia** or **Iran** has an area of 645,000 square miles, and about 7,000,000 inhabitants.

2. **Afghanistan** has an area of 280,000 square miles, and about 4,000,000 inhabitants.

3. **Baluchistan** has an area of 105,000 square miles, and about 1,000,000 inhabitants.

4. **Kafiristan** has an area of about 20,500 square miles, and an estimated population of 300,000.

This group of Iranian states is bounded by India, Tibet, Independent and Russian Turkestan, the Caspian Sea, Caucasia, Turkey in Asia, the Persian Gulf, and the Indian Ocean.

POPULATION.

The inhabitants of these states belong partly to the Indo-European stock (including 3,000,000 Persians, and the natives of Afghanistan and Baluchistan), and partly to other races such as the Turko-Tartars, Turkomenians, Kurds, Arabs, Armenians, and Jews.

The great majority of the Afghans and Baluchees, and about one-third of the Persians, are nomads.

The prevailing religion is Islam, the Persians belonging to the sect of the Shiites, while the others are Sunnites. The followers of Zoroaster (Parsees or Guebers) are now a very small body (8000 in Persia); the Armenians are estimated at 43,000, and about 23,000 Nestorians dwell on Lake Urumiya. In intellectual capacity the Persians take the lead, and their language plays in South-western Asia the same rôle as French in Europe. The Iranian plateau was for thousands of years the home of mighty bye-gone nations, which reached a high level of civilization, and numerous relics of this former greatness still remain. The present economical and social condition of the country is very inferior to the past.

The Persian monarch assumes the title of "*Shah-in-shah,*" or King of Kings, and his banner represents the sun. The provinces into which the kingdom is divided are ruled by khans or governors, who maintain a considerable degree of independence. The government is an oriental despotism. The administration is very corrupt, and is in reality no better than that of Turkey in Asia, though the adoption of some European innovations (in the army, etc.) lend it a deceptive air of progress.

The tribes of *Baluchistan* (about 50 in all) are ruled by khans, who acknowledge to some extent the hegemony of the khan of Kelat, who again is a vassal of India.

Afghanistan is subject to a single supreme ruler or Ameer, but the various subordinate chiefs enjoy a considerable amount of independence. The principle of hereditary succession is by no means established, and the death of the Ameer is generally the signal for political intrigues and even open fighting, until the most influential candidate is able to secure possession of the dignity.

Kafiristan, an independent country to the north-east of Afghanistan, is as yet quite unexplored.

The whole of this territory forms an object of jealous interest to both Russia and England. Afghanistan, in particular, may be described as the bulwark of British India, and holds in the passes of Kabul the key to that great possession.

NATURAL FEATURES AND CLIMATE.

The Iranian states, with a total area of about 1,050,500 square miles, form the most compact mass of the great table-land of Western Asia, the mean height of which is 3000–4500 ft., though at places it is not more than 1000 ft. above the sea. The N. margin of the plateau is formed by the Hindukûsh (16,000 ft., with the pass of Bamian) and the mountain ranges of Khorassan and Elburz, the last-named culminating in Demavend (17,900 ft.). To the E. are the Suliman Mts. (13,000 ft.) and the Hala Mts., with the Kabul passes. The S. barrier consists of lofty and precipitous walls of rock, extending for a distance of over 900 miles without a break.[1] To the N.W. and W. are the terraces of Luristan and Kurdistan, and the alpine district of Adarbaijan, some of the snowy peaks of which attain a height of 14,750 ft.

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[1] The only means of crossing this formidable barrier are precipitous, almost perpendicular mountain paths, known as "ladders."

The lofty mountains surrounding the table-land attract all the moisture of the region, and consequently the most fertile and prosperous parts of the Iranian plateau are near its edges. Some of the long valleys separating one mountain or range from another contain an almost unbroken succession of villages, surrounded by the most luxuriant vegetation, and enjoying a delightful alpine climate. Favoured spots of this character occur most frequently near the N. and W. margins of the table-land. The interior of the plateau, on the other hand, with the exception of a few oases, is for the greater part of the year an arid, salt, gray desert, over which is spread an eternal canopy of blue, while the air is so parched that iron does not rust and animal substances dry up but do not rot. At many places the salt is visible in the form of an efflorescence on the surface of the ground. The summer heat is excessive.

This region, as already indicated, possesses few *Rivers* or *Lakes.* The marginal districts are watered by a few tributaries of the Tigris and the Indus, and by some short coast-streams. Here and there in the steppes of the interior are rivers flowing into salt lakes. The longest of these is the Helmand, which loses itself in the great marsh of Hamûn. Many districts which are now desolate and barren formerly flourished under a system of artificial irrigation; unfortunately industry of this nature is steadily on the decline.

DIVISIONS AND CHIEF TOWNS.

1. **Persia.**—Teheran, the capital of Persia, has about 210,000 inhabitants. The other chief town are Kashan (30,000 inhab.); Ispahan (90,000); Tabreez (170,000); Reshd (40,000), Balfrush, Anzali, and Asterabad, on the Caspian Sea; Meshed (70,000); Yezd (40,000); Shiraz (30,000); and Bushire or Abushir (on the Persian Gulf).

2. **Afghanistan.**—Kabul (the capital, with 60,000 inhab.), Ghazni, Kandahar (30,000 inhab.), and Herat (60,000). The

N. slope of the Hindukûsh, with the town of Balkh, also belongs to Afghanistan.

3. **Baluchistan.**—Kelat (the capital), with 12,000 inhabitants, and Quettah.

NATURAL PRODUCTS.

1. **Agriculture.**—In the districts where the climate makes it feasible, agriculture is practised with success, producing many articles of commerce. If the spring rains are deficient, failure of the harvest and famine ensue.

The chief agricultural products are *Grain*, *Rice* (on the Caspian Sea), *Grapes* (exported in large quantity in the form of raisins), *Melons*, *Dates* (on the Persian Gulf), and other varieties of *Fruit*,[1] *Saffron*, *Safflower*, buckthorn (*Rhamnus catharticus*), yellow-berries (the best known to commerce), *Madder*, *Asafoetida*, rhubarb, sesame, gum mastic, *Hashish*, *Opium*, *Tobacco*, and thorn-apples. Cotton and roses are also extensively cultivated.

Forests are comparatively rare.

2. **Live Stock.**—The rearing of *Live Stock* is extensively carried on, especially in the steppes. Cattle, however, are seldom kept, the chief wealth of the nomadic tribes consisting of *Dromedaries*, fat-tailed *Sheep*, and *Goats*. Persian *Horses*, improved by crossing with Arab blood, are highly valued; mules and asses are also much used. *Game* abounds in all parts. *Silk-culture* is extensively practised.

3. **Minerals.**—Though the mineral wealth of the country is great, *Mining* is much neglected. Thus the demand for iron is met by importation from Russia, though iron ore occurs in abundance. A little iron, copper, lead, salt, and saltpetre are mined in a very primitive manner. The finest kinds of turquoise are found in Persia.

MANUFACTURES.

The manufacturing activity of these countries centres in Persia, Baluchistan having no manufactures and Afghanistan none of any importance.

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[1] Many of the European varieties of fruit originated in Persia.

At one time the products of Persian industry enjoyed a wide and favourable reputation, owing to the mechanical dexterity of the Persian workmen and their keen interest in the processes of manufacture. Of late, however, Persia has lost this position, and its competition with Europe becomes every day more hopeless. Only a few branches of industry are now of any great importance; at the head of these may be mentioned *Dyeing*, in which the Persians still achieve most admirable effects. Other products, are *Silk*, *Shawls* (of Angora wool), worked hangings, gold and silver embroidery, *Carpets* of great richness and delicacy (made of wool and goats' hair), *Metal Work* (weapons, ornaments for horse-trappings, copper vessels), *Glass* and *Pottery*, *Mosaics*, trinkets, pipes, and attar of roses.

The chief industrial centres are *Ispahan*, *Tabreez*, and *Reshd*.

TRADE AND COMMERCE.

Of the three Iranian kingdoms Persia alone has any importance for international commerce. Its position on two seas, and its wealth in valuable natural products, make Persia one of the chief commercial nations of Asia, and a ready market for many European manufactures.

The Persians themselves are adroit and often cunning merchants, extending their commercial journeys to Europe and the heart of Asia, entering into relations with the chief commercial nations, and securing the latter by treaties.

Two great hindrances stand in the way of the extension of Persia's commerce. In the first place, the Persians have a great dislike to the sea, and leave all the marine carrying trade in the hands of the English, Russians, and other seafaring nations; and, secondly, there is an almost complete absence of satisfactory means of communication in the interior of the country.

The most important places have, it is true, *Postal* and *Telegraphic Communication* with each other; but there are no railways,[1] though several have been planned within the last thirty years, and all goods have to be transported by caravans. The river Karun, at the head of the Persian Gulf, has recently been opened to foreign trade.

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[1] A short line (5 miles) was constructed in 1887-88 from Teheran to Shahabdulazim.—TR.

The foreign trade is carried on partly by sea, partly by land. *Bushire* is the most important port on the Persian Gulf, and is touched at regularly by English steamers on their way to or from India. The chief emporium for the trade with Western Europe is *Tabreez*, which has still to maintain its communication with the port of *Trebizond* in Asia Minor, as the Russians will not permit the Caucasus Railway to be used for the transit trade. The Russian trade with Persia is carried on partly by land-routes and partly through the ports of *Asterabad* and *Anzali*, on the Caspian Sea (reached by steamer from Astrakhan in seven days).

The expense of transport in the foreign trade of Persia is greatly increased by the huge mountain-barrier that has in every case to be surmounted; even the seaports are approached from the interior by steep mountain-paths. All the caravan routes from foreign countries, many of which are far from being safe, converge on *Teheran*.

The most important town in Afghanistan is *Herat*, situated in the midst of an extensive and well-watered oasis. Its position as the "Gate of India" has brought it more than once within the historical period to great wealth and prosperity. It lies at the intersection of the roads uniting Persia and India, Afghanistan and Turkestan. The Russians are credited with the desire to make Herat the (temporary) terminus of their Central Asiatic Railway.

Teheran is connected with Europe by *Telegraph viâ* Constantinople and the Caucasus.

IMPORTS AND EXPORTS.

The chief *Imports* are manufactured articles, such as cotton goods (from England and Switzerland), cloth (from Russia), metals and metallic wares (Russia, Germany), glass and pottery (England and Austria), fancy articles from Paris and Nuremberg, and Swiss clocks and watches. Spices, shawls, and metals are brought from India, coffee and frankincense from Arabia. The total annual value of the imports is between £5,000,000 and £6,000,000.

The *Exports* consist mainly of the natural products and manufactures above mentioned; Persian carpets, drugs, silk, tobacco, opium, gum, furs, skins, dates, grain, and rice find purchasers not only in Mohammedan countries but throughout Europe. The annual value of the exports is between £3,000,000 and £4,000,000.

The European nations chiefly engaged in trading with Persia are Great Britain, Russia, France, and Turkey.

INDEPENDENT ARABIA.

SITUATION, BOUNDARIES, AREA, AND POPULATION.

Independent Arabia is bounded by Turkish territory, the Arabian Gulf, and the Persian Gulf.

Its area is estimated at about 976,000 square miles, and its population at barely 4,000,000.

Most of the *Inhabitants* are pure-blooded *Arabs*, but there are also numbers of Turks, Jews, Indians, and Europeans. The Arabs, who are fanatical followers of Mahomet, are divided according to their occupation into *Fellahs* (tillers of the soil and settled stock-breeders), *Hadhesis* (traders and artizans), and *Nomads.*

The Arabs are divided into numerous independent tribes, each under its own Sheikh. From time immemorial these tribes have lived at constant feud with each other, and it happens from time to time that one tribe succeeds in obtaining a certain amount of political authority over the other tribes in its neighbourhood. In this manner arose the so-called "kingdom" of the *Wahabites* and others, which, however, it must be remembered, had nothing in common with kingdoms in the European sense of the word. The chief town is Muscat, in the district of *Oman.*

The *Physical Configuration* of the peninsula resembles that of Iran, consisting of a plateau or table-land (about 3000 ft. in height) in a ring-fence of lofty mountains. The great bulk of the interior is desert, but there are numerous fertile oases.

Arabia is characterized by an almost entire absence of *Water*. There are no perennial rivers. The want of rain is supplied by a heavy dew.

The *Temperature* is generally very high. The range of temperature between day and night on the mountains is very great, and ice is not infrequently formed at night. The simoom often blows in the N. part of the country. The littoral has a tropical climate, and the Red Sea is the hottest sheet of water in the world.

PRODUCTS AND TRADE.

The chief vegetable products of Arabia are *coffee*, *gum*, *balm*, *incense*, *dates* and other fruit, cotton, and the sugar-cane. The cereals of Europe are here replaced by millet and *Durrah*.

Arabian *Horses* have long been famous, and the Arabian *Camels* are also eminent for their strength and speed. Asses and sheep are also common.

Diving for coral, sponges, and *Pearls* is a characteristic industry on the coast.

The *Industrial Products* of Arabia, which are insufficient to meet even the primitive wants of the natives, do not give the slightest indication of the high place once occupied by the Arabs in art and industry.

For centuries before the discovery of the sea-route to India, the Arabs held in their hands the whole of the trade between Europe, Eastern Asia, and Africa. They made trading journeys into the heart of Asia; their ships and camels brought the treasures of the East to Alexandria. To-day all is changed; the Arabs still, it is true, show a talent for trading, but their civilization is gone. As intermediaries in the Oriental trade, their part is quite subordinate to that of the Europeans, and the trade of Arabia itself is insignificant. It exports coffee and drugs, in return for which it receives grain from Egypt, timber, rice, sugar, and slaves from Africa, manufactured products of all kinds from Europe, and carpets, shawls, leather goods, and weapons from Persia and Asiatic Turkey.

AMERICA.

THE UNITED STATES OF NORTH AMERICA.

SITUATION AND BOUNDARIES.

The United States (exclusive of Alaska) lie between 25° and 49° N. lat. and between 67° and 125° E. lon. Their boundaries are British North America, the Atlantic Ocean (for a distance of 1900 miles), the Gulf of Mexico (1600 miles), Mexico, and the Pacific Ocean (1600 miles). The long lines of coast are furnished with 600 lighthouses.

AREA AND POPULATION.

The *United States*, as at present constituted, consist of 44 states, 4 territories, the Federal District of Columbia, the Indian Territory, and Alaska, with a total area of 3,500,000 square miles. At the census of 1880 the population was 50,500,000, a number which has increased to 62,982,000 in 1890.

Of the inhabitants in 1890 nearly 55,000,000 belonged to the white races, 7,400,000 were negroes (including mulattoes), 300,000 Indians, and 107,000 Chinese.

The rapid increase of population, unparalleled in the history of the world, is mainly due to the vast *Immigration* of Europeans. Fully 9,000,000 of the inhabitants in 1890 were born outside of the United States. The average annual number of immigrants arriving in recent years has been 400,000. The great bulk of these come from Great Britain and Ireland (117,500 in 1892), Germany (130,000), Austria-Hungary (80,000), Scandinavia, Italy, and Russia. The immigration from these latter countries has much increased in recent years.

The greatest *Density of Population* is found in the eastern states (200–230 per sq. m.), the southern, western, and central states are much more thinly peopled.

An overwhelming majority of the inhabitants speak *English*, which is the official and general language; and most immigrants, if not in their own persons then in their children, rapidly forget their own tongue and adopt English. *German*, however, is used to a considerable extent in Pennsylvania, Illinois, Ohio, Wisconsin, and New York, where the Germans congregate in the largest numbers; *French* is spoken in Louisiana and on Lake Superior, and *Spanish* is predominant in New Mexico.

Education is universal, and the elementary schools are models in their way. In nearly every state compulsory education is exacted with exemplary vigour. In spite of this, however, about 13 per cent of the population are unable to read or write, the great bulk of these illiterates being negroes or Irish immigrants. Higher schools of all kinds exist throughout the Union, and are much frequented by girls as well as boys; they are, however, as a rule, inferior to their European models.

Technical schools of all kinds, lectures, libraries, and a widespread newspaper press (upwards of 10,000 different journals) provide universal education. The endowment, both by the state and by private individuals, of scientific research and study, has reached a princely scale, unequalled in any other country in the world. The fine arts also find intelligent patronage.

Religion.—Probably three-fifths of the inhabitants of the United States are Protestants, the chief of the innumerable Protestant sects being the Methodists, Baptists, Lutherans, and Presbyterians. There are about 6,000,000 Roman Catholics. The Jews, who are found only in the mercantile towns, number between 200,000 and 300,000.

CONSTITUTION.

According to the constitution of September 17th, 1787, the Union consists of a federation of independent states (44 at present[1]), regulating their own internal affairs, but managing those common to all through a *Federal Government*, consisting of three branches, the legislative (congress), the executive (president), and the judicial.

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[1] A territory may claim to be admitted as a state when it contains 60,000 free inhabitants.

Congress consists of the Senate and the House of Representatives.

The *Senate* at present has 88 members, two members being elected for six years by each of the 44 states. Each senator must be 30 years old, must have been a citizen of the United States for nine years, and must be a resident in the state for which he is elected.

The *House of Representatives* consists of 356 deputies, elected by the different states for two years. The deputies must be twenty-five years old, must have been citizens of the United States for seven years, and must be inhabitants of the state for which they are elected. Officials of the Union are not eligible as senators or members of the House of Representatives.

These two chambers pass all laws relating to the United States as a whole.

The *President*, who holds office for four years, is elected by popular suffrage exercised through "electoral colleges" in each state. The *Vice-President* is elected at the same time and in the same manner. The rights of the President resemble those of the constitutional princes of Europe; but he may not appoint officials or ratify treaties without the assent of two-thirds of the Senate. He can exercise the right of veto over a bill passed by Congress, but the measure may then be brought forward again and passed "over the President's veto" if the majority consists of two-thirds of both chambers. The President may be deposed from office, and is eligible for re-election.

The Vice-President is *ex officio* president of the Senate; and in case of the death or resignation of the President, he becomes President for the remainder of the term.

The administration is carried on by seven Ministers[1] chosen by the President, with the approval of the Senate, but liable to dismissal by the President alone. They are not responsible.

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[1] Secretary of State, Secretary of the Treasury, Secretary of War, Secretary of the Navy, Secretary of the Interior, Postmaster-General, Attorney-General.

The *Judicial Power* is vested in the following bodies:—

1. The *Supreme Court*, meeting at Washington on the second Monday of October.
2. Nine *Circuit Courts*, sitting twice a year.
3. The *District Courts* (one at least in each state).
4. The *Court of Claims*, which sits in Washington to hear and decide all cases brought against the government of the United States.

The *Judges* are appointed for life by the President, and cannot be removed except by a vote of Congress.

All criminal cases are tried by jury.

The United States *Army* is by law restricted to not more than 25,000 men, forming 25 infantry regiments, 10 cavalry regiments, 5 artillery regiments, etc. It is recruited by voluntary enlistment. Each state has also a militia.

The *Navy*, on which the defence of the coasts of the Union mainly depends, is at present small, but is now being rapidly increased by first-class vessels.

The different states are sovereign and independent in dealing with their own affairs, so far as they do not come into collision with the general constitution. Their administration is similar to that of the general government, each state having its governor, congress, and supreme and inferior courts.

PHYSICAL FEATURES.

Two great mountain-chains stretching from north to south, the Appalachian and the Cordilleran systems, divide the United States into five main regions.

1. The country between the Atlantic and Appalachian ranges is a well-watered and fertile *Littoral District* ("Atlantic slope"), with strongly marked features. It begins near New York, where the mountains approach the sea, and increases in width towards the south.

2. The whole range, known as the *Appalachiam System*, is about 1300 miles in length. Its principal part is formed by the *Alleghany Mountains*, embracing several parallel chains, the ridges nearest the ocean being named the Blue, White, and

Green Mountains. The Alleghanies, the highest summits of which do not exceed 6700 ft. in height, are for the most part covered with woods, and their valleys are well-watered and fertile, while the interior of the mountains conceal enormous stores of mineral wealth.

3. The vast *Basin of the Mississippi*, between the Alleghanies and the Rocky Mts. The greater part of the Mississippi basin, extending on the north to the great lakes, is exuberantly fertile, and consists of rich black soil. The western margin, which ascends gradually from the level of the river to a height of 6500 ft., is, however, deficient in water at many places, and assumes the character of steppes or "prairies," which are unsuitable for anything but cattle-farming on a large scale ("ranches") until the natural conditions have been altered by artificial irrigation.

4. The *Cordilleras of the United States* form a prolongation of the Sierras of Mexico, and cover about 35 per cent of the area of the Union. Immediately after entering the United States the Cordilleras divide into two great parallel chains, the *Rocky Mountains* to the east, and the *Sierra Nevada*, continued by the *Cascade Mountains*, to the west. These two chains, which attain a height of 15–16,000 ft., while some of the passes are 9000 ft. above the sea-level, inclose an elevated plain (4000 ft. above the sea), which forms the most barren part of the United States, large tracts of it being mere desert.

5. To the west of the Sierra Nevada, near the Pacific Ocean, rise the low *Coast Mountains* of California, which are continued in the heights of Vancouver's Island. The so-called "Pacific slope," between the Sierra Nevada and the ocean, is one of the most fertile regions in the American continent.

RIVERS, LAKES, AND CANALS.

Few countries are better supplied with water-courses than the United States. The interior of the country is connected with the Atlantic Ocean by numerous large and navigable rivers, which do much to neutralize the vast distances of the great Republic.

The chief river is the *Mississippi*, 3300 miles in length, which, with its mighty tributaries, spreads itself like a tree with boughs and branches over a basin 1,172,000 square miles in area. The most important of all its affluents is the *Missouri*, which joins it on the right, and is at the point of confluence a river of greater volume than the Mississippi itself, besides having had a much longer course (2760 miles). The Missouri drains the whole of the central part of the United States, bringing with it the waters of the Yellowstone, Nebraska, Kansas, etc. The chief tributaries on the left bank of the upper course of the Mississippi are the Wisconsin and the Illinois.

Below its confluence with the Missouri, the gigantic stream, which sometimes attains a depth of 150 ft., receives a great number of tributaries. The *Ohio*, on the left bank, brings with it the waters of the Tennessee, Wabash, Kentucky, and other streams draining the west side of the Alleghanies. On the right bank the most important feeders are the *Arkansas* and *Red River*. Below the junction of the last-named the Mississippi forms a wide swampy delta, and pours into the Gulf of Mexico through several different outlets.

The Texan *Colorado*, and the *Rio Grande del Norte* (1130 miles long) also fall into the Gulf of Mexico.

The chief rivers flowing into the *Atlantic Ocean* are the Savannah, the Potomac, the Susquehannah, the Delaware, the Hudson, the Connecticut, and the St. Lawrence, the last forming the boundary between the United States and Canada.[1]

The largest rivers flowing towards the *Pacific Ocean* are the Columbia or Oregon, the Sacramento, and the Colorado. The last, which with its tributaries drains a vast extent of country, empties itself into the Gulf of California. Most of the rivers of the Pacific system penetrate the great mountain-ridges running parallel with the coast by profound rocky gorges, known as *Cañons*, which are often many miles in length and quite impassable. The rapid fall of the rivers and the rapidity of their current render them unfit for navigation.

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[1] It is characteristic of the American rivers that they all contain a greater body of water than rivers of a similar length in Europe.

The rivers of the Atlantic system, which, on the other hand, are of the greatest value for navigation, are connected with each other by a network of canals.

These *Canals* have a total length of over 3700 miles. The most important are:—

1. The Lake Champlain and Hudson Canal, uniting the Hudson (at Albany) with the St. Lawrence.
2. The Erie Canal, from Albany to Buffalo (364 miles long).
3. The Pennsylvanian Canal, connecting the Ohio with the Susquehannah.
4. The Ohio Canal, between the Ohio and Lake Erie.
5. The Michigan Canal, uniting Lake Michigan with the Mississippi.

In *Lakes* the Union is by no means so rich as British North America, but it has a share, through its north frontier, of those which are most important from a commercial point of view.[1] These are *Lake Superior* (31,200 sq. m.), *Lake Michigan* (22,450 sq. m.), *Lake Huron* (23,800 sq. m.), Lake Erie (9960 sq. m.), and Lake Ontario (7240 sq. m.). Next to these in importance are *Lake Champlain* (in 44° N. lat.), and the *Great Salt Lake* in Utah.

CLIMATE.[2]

The climatic conditions of the United States correspond in their scope and variety to the huge extent of the country and the disposition of its mountain-ranges. As a general rule, however, they are decidedly of a continental character, the only exception being the mild, equable, and oceanic climate of the narrow Pacific seaboard. The district on the Gulf of Mexico, the home of the sugar-planters, enjoys an almost tropical climate.

The summer temperature varies in the Atlantic states from 68° to 75° F., in the central and Pacific states from 59° to

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[1] The deepening of the Welland Canal, in Canada, so as to admit vessels of 2000 tons burden, has greatly stimulated the lake-trade of the United States.

[2] The United States contain 400 meteorological stations, which announce impending changes of weather, thaws, inundations, and storms, twenty-four hours in advance. That on Pike's Peak (11,500 ft.) is the highest station of the kind in the globe.

64·5° F., and in the Gulf states from 80·5° to 84·2° F., while the hottest part of the United States is on the Mexican frontier (Fort Yuma), where the thermometer attains a height of 87·8° F. The winter temperature varies from 21° to 51° F. on the Atlantic seaboard, 8·6° F. in the northern-central states, from 48° to 52° F. in the Pacific states, and from 52° to 55° F. in the Gulf states.

A great quantity of rain falls on the east coast. At New York the annual rainfall is 42 inches, at St. Louis 43 inches, at New Orleans 50 inches, and at Florida 53 inches. It decreases as we advance westward. The annual number of rainy days in New York is 110, and in California 50, the year in the latter being divided into a wet season (November to April) and a dry season. Almost no rain falls on some of the high-lying plateaux of the Rocky Mts. and the Sierra Nevada. The snow-fall in the north and north-western states often reaches the enormous dimensions of 18–20 feet; and the same region is exposed in winter to terrible tempests.

On the whole the climate of the United States is one of the healthiest of the globe, and all races of mankind can adapt themselves to it with little difficulty. In the Mississippi delta, however, and other tracts on the Gulf of Mexico, there are extensive swampy regions which are haunted by yellow fever and other climatic epidemics of a most deadly character. Against this may be set the health-giving qualities of the air of the mountainous western states, where disease of the lungs or tuberculosis is unknown among the residents, and where patients in the early stages of such diseases can obtain an almost certain cure.

These favourable climatic conditions, which enable the natives of every part of Europe to find here a climate resembling that of their fatherland, and thus to live and work in their wonted manner, form one of the chief reasons why the main stream of emigration from the Old World pours itself over the territory of the United States.

STATES AND CHIEF TOWNS.

Northern Atlantic States.

Connecticut (4845 sq. m.; 746,258 inhab.).—Hartford, New Haven (81,000 inhab.).

Maine (29,890 sq. m.; 661,086 inhab.).—Augusta, Portland, Bangor.

Massachusetts (8040 sq. m.; 2,238,943 inhab.).—Boston (448,000 inhab.), Lowell (77,000 inhab.), Worcester, Cambridge.

New Hampshire (9005 sq. m.; 376,530 inhab.).—Concord, Portsmouth, Manchester.

Rhode Island (1085 sq. m.; 345,506 inhab.).—Providence (132,000 inhab.), Newport.

Vermont (9135 sq. m.; 332,422 inhab.).—Montpelier.

New Jersey (7445 sq. m.; 1,444,933 inhab.).—Trenton, Newark (182,000 inhab.), Jersey City (163,000 inhab.).

New York (47,620 sq. m.; 5,997,853 inhab.).—Albany (94,000 inhab.), New York (1,515,000 inhab.), Brooklyn (806,000 inhab.), Buffalo (255,000 inhab.), Rochester, Saratoga.

Pennsylvania (44,985 sq. m.; 5,258,014 inhab.).—Philadelphia (1,047,000 inhab.), Pittsburg (238,000 inhab.), Allegheny (105,000), Scranton, Lancaster (a German town).

Southern Atlantic States.

Delaware (1960 sq. m.; 168,493 inhab.).—Dover, Wilmington.

Maryland (9860 sq. m.; 1,042,390 inhab.).—Annapolis, Baltimore (434,000 inhab.).

Federal District of Columbia (60 sq. m.; 230,392 inhab.), Washington (189,000 inhab.), Georgetown.

Virginia (40,125 sq. m.; 1,655,980 inhab.).—Richmond (90,000 inhab.), Norfolk, Petersburg.

West Virginia (24,645 sq. m.; 762,794 inhab.).—Charleston, Wheeling.

North Carolina (48,580 sq. m.; 1,617,947 inhab.).—Raleigh, Wilmington.

South Carolina (30,170 sq. m.; 1,151,149 inhab.).—Columbia, Charleston (55,000 inhab.).

Georgia (58,980 sq. m.; 1,837,353 inhab.).—Atlanta (65,000 inhab.), Savannah.

Florida (54,240 sq. m.; 391,422 inhab.).—Tallahassee, Saint Augustine.

Southern Central States.

Alabama (51,540 sq. m.; 1,513,017 inhab.).—Montgomery, Mobile.

Tennessee (41,750 sq. m.; 1,767,518 inhab.).—Nashville (76,000 inhab.), Memphis.

Kentucky (40,000 sq. m.; 1,858,635 inhab.).—Frankfort, Louisville (161,000 inhab.).

Arkansas (53,045 sq. m.; 1,128,179 inhab.).—Little Rock.

Mississippi (46,340 sq. m.; 1,289,600 inhab.).—Jackson, Vicksburg.

Louisiana (45,420 sq. m.; 1,118,587 inhab.).—Baton-Rouge, New Orleans (247,000 inhab.).

Texas (262,290 sq. m.; 2,235,523 inhab.).—Austin, Galveston, Dallas, San Antonio.

Northern Central States.

Illinois (56,000 sq. m.; 3,826,351 inhab.).—Springfield, Chicago (1,099,000 inhab.), Peoria, Quincy.

Indiana (35,910 sq. m.; 2,192,404 inhab.).—Indianapolis (105,000 inhab.), Evansville.

Iowa (55,475 sq. m.; 1,911,896 inhab.).—Desmoines (50,000 inhab.), Dubuque.

Kansas (81,700 sq. m.; 1,427,096 inhab.).—Topeka, Leavenworth, Atchison.

Michigan (57,430 sq. m.; 2,093,889 inhab.).—Lansing, Detroit (205,000 inhab.).

Minnesota (79,205 sq. m.; 1,301,826 inhab.).—St. Paul (133,000 inhab.), Minneapolis (164,000).

Missouri (68,735 sq. m.; 2,679,184 inhab.).—Jefferson City, St. Louis (451,000 inhab.), Kansas City (171,000 inhab.).

Nebraska (76,185 sq. m.; 1,058,910 inhab.). — Lincoln, Omaha (148,000 inhab.).

North Dakota (70,195 sq. m.; 182,719 inhab.).—Bismarck.

South Dakota (76,850 sq. m.; 328,808 inhab.).—Pierre.

Ohio (40,760 sq. m.; 3,672,316 inhab.).—Columbus, Cincinnati (300,000 inhab.), Cleveland (261,000 inhab.), Toledo.

Wisconsin (54,450 sq. m.; 1,686,880 inhab.). — Madison, Milwaukee (204,000 inhab.).

Western States.

Colorado (103,645 sq. m.; 412,198 inhab.).—Denver (112,000 inhab.), Pueblo, Leadville.

Idaho (84,290 sq. m.; 84,385 inhab.).—Boisé City.

Montana (145,310 sq. m.; 132,159 inhab.).—Helena.

Wyoming (97,575 sq. m.; 60,705 inhab.).—Cheyenne.

California (155,980 sq. m.; 1,208,130 inhab.).—Sacramento, San Francisco (300,000 inhab.), Oakland, Stockton, Los Angeles (50,000 inhab.).

Nevada (109,740 sq. m.; 45,761 inhab.). — Carson City, Virginia City.

Oregon (94,560 sq. m.; 313,767 inhab.).—Salem, Portland (62,000 inhab.), Astoria.

Washington (66,880 sq. m.; 349,390 inhab.).—Olympia, Seattle, Tacoma.

Territories (to the West of the Mississippi).

Oklahoma (38,830 sq. m.; 61,834 inhab.).—Guthrie.

Arizona (112,920 sq. m.; 59,620 inhab.).—Phœnix.

New Mexico (122,460 sq. m.; 153,593 inhab.).—Santa Fé.

Utah (82,190 sq. m.; 207,905 inhab.).—Salt-lake City (capital of the Mormons), Ogden.

Indian Territory (31,000 sq. m.; 178,097 inhab.).—No towns.

Alaska (531,409 sq. m.; 32,052 inhab.).—New Archangel.

NATURAL PRODUCTS.

The genial blessings of nature, which are so richly poured out over this vast empire, are fitly mated by the iron diligence and the bold enterprise of its inhabitants, which turn impenetrable forests and illimitable prairies into smiling fields of grain, and wring treasures of inestimable value from the interior of the earth.

1. **Vegetable Products.**—In a country extending over so many climatic zones,[1] it is obvious that the chief products of its southern districts must differ from those of the north. All steps of agriculture are also represented, from the clearing of primeval forest to tillage and horticulture of the most advanced and scientific stamp. In the large grain-producing states of the west, however, the method pursued is, as might be expected, somewhat reckless and wasteful. Agricultural machinery is universally used from a desire to economize time, energy, and money.

The United States *Cultivation of Cotton*, which has been carried on in the southern states (up to 35° N. lat.) since 1775, produces the most important raw material of the world's industry, whether we regard value or quantity. The production fell off greatly during the Civil War, but has again risen to 6–7 million bales (from 300 to 500 lbs. each), about one-quarter of which is spun in the country. This renewed activity in the United States has led to a rapid diminution of the production of India, Egypt, and Brazil.

Rice is grown chiefly in South Carolina (three-fourths of the entire yield), North Carolina, Georgia, and Louisiana.

The *Sugar Culture*, practised since 1726 in all the states to the south of the thirty-third parallel of N. latitude, has fallen off since the abolition of slavery, but is still extensively prosecuted in Louisiana, Florida, and Texas. The annual yield now amounts to about 2,000,000 cwts., equal to about half of the former yield and to one-fifth of the total consumption. The northern states produce maple sugar, sorghum sugar, and several other substitutes for the juice of the sugar-cane. Sorghum is also grown extensively for fodder.

Attempts to introduce tropical plants, such as coffee, tea, and indigo, into the southern states, have met with considerable success, but are still hardly out of the region of experiment. The cultivation of southern fruits, however, such as bananas, pine-apples, and oranges, is carried on for exportation.

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[1] The agriculture of the United States is carried on under all conditions of temperature between the heat of Senegambia and the cold of Greenland.

The *Tobacco Cultivation* extends farther to the north than that of any of the plants above-mentioned, and is found at its best in Virginia, Kentucky, Maryland, North Carolina, and Tennessee. The annual yield is between 4,000,000 and 6,000,000 cwts. A large quantity of tobacco is imported from Havanna.

The chief vegetable product of the northern states is:—

Maize or *Indian Corn*, which occurs in forty different varieties, and thrives best between the Mississippi and the Atlantic Ocean. In 1890 the yield amounted to 2,121,000,000 bushels.

The other *Cereals* form the chief products of the northern and western states (including California); and the inexhaustible fertility of the soil yields every year a greater surplus for exportation in the form both of grain and flour.[1] The total yield of an average grain harvest (including maize) in the United States may now (1888) be safely estimated at not less than 3,000,000,000 bushels. Of this about 460,000,000 bushels are wheat, 44,000,000 barley, 20,000,000 rye, 410,000,000 oats, and 13,000,000 buck-wheat.

In 1884 the United States produced about 200,000,000 bushels of *Potatoes*.

Next in order of importance rank the following products:—

Hemp and *Flax* (and, lately, jute also), in Kentucky, Tennessee, and Missouri.

Hops (600,000 cwts.), in New York, Wisconsin, and California.

Beans and *Peas*, throughout the whole country.

Apples, peaches, and other European fruit in New York, Ohio, Pennsylvania, Delaware, and California, large quantities being exported.

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[1] The United States now occupy the first place among the grain-exporting countries of the globe, and have acquired the greatest importance as a source of the food-supply of Europe. As, moreover, thousands of acres of new land are being annually brought under cultivation, while the means of transport are constantly becoming easier, it is difficult to foresee any limits to the capacity of the Union to extend this extraordinary production of cheap food.

The *Cultivation of the Vine* is carried on with success in *California*, also in Ohio and New York, and, to a less important extent, in Missouri. The vine does not thrive in the rainy climate of the eastern seaboard. In all, the Union produces annually about 20–40,000,000 gallons of wine, most of which is of a rather strong and heady nature. Most of the finer and lighter wines consumed in the United States are imported, though California has begun to turn the tables by sending the products of her vintages to Asia, and even to Europe.

In spite of an enormous and reckless system of clearing away, the effects of which already begin to make themselves felt, vast expanses of the country, especially in the central and northern states, are still covered by primeval *Forests*. Large forests also occur in Oregon and California, where the *Sequoia gigantea* attains a height of 300–350 feet.

Oaks, pines, firs, maples, mahogany-trees, and cedars form the chief features of these woods.

A valuable product of Pennsylvania, Carolina, and Georgia is the *Quercitron*, or inner bark of the dyer's oak (*Quercus tinctoria*), used in tanning and in dyeing yellow. The *Hickory* of the eastern and western states is invaluable to carriage-builders.

Hay (35 million tons) is exported to England.

2. **Animal Products.**—The vast pasture-lands of the United States, partly inclosed and partly in a state of nature, make it the home of a most extensive system of cattle-breeding. All the domestic animals of the Old World are now successfully reared in the new, to which they were first introduced by the colonists. The western states, where comparatively little rain falls, in particular possess an enormous stock of cattle,[1] the 100th meridian forming the approximate boundary between the well-watered farm-lands and the pastoral districts. The surplus stock is sent to the eastern states, to be either consumed there or sent on to Europe.

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[1] During the last few years the Americans have begun to utilize systematically the vast prairies to the west of the Mississippi as pasture-lands, and their success has already been phenomenal. Herds of 20,000 cattle are now found belonging to a single owner. Large quantities of meat are exported from the United States to Europe.

Pigs head the list of live stock in point of numbers, no fewer than 47,000,000 being reared in Ohio, Indiana, Iowa, Illinois, etc., the forests and maize stubble-fields affording excellent fattening grounds. About 15,000,000 porkers are slaughtered every year; and their flesh is pickled and exported to all parts of the world. The chief markets for this trade are Cincinnati, Chicago, St. Louis, Indianapolis, and Milwaukee.

Sheep (about 45,000,000) are reared mainly in Texas, California, and Ohio. The home demand for wool exceeds the supply.

In 1892 it was estimated that the United States contained 54,000,000 *Cattle* (including 13,500,000 milch-kine), many of which roamed in a wild or semi-wild state on the prairies of California and Texas. Cattle-breeding is most systematically carried on in Vermont, Pennsylvania, New York, and Ohio, the states which produce the most butter and cheese. The annual quantity of cheese produced is 800,000 cwts., of butter 250,000 cwts.

The number of *Horses* in the United States is returned at 15,500,000, that of *Mules* at upwards of 2,000,000. The former are most extensively bred in Illinois, Iowa, Texas, and Kentucky; the latter in the southern and western states. No pains are spared to increase the numbers and improve the breed of both horses and mules. The latter are an invaluable help both to the farmer and the miner.

Bee-keeping flourishes in the central states, the number of hives showing a steady annual increase.

The *Silk-worm* is reared in California and some other states with considerable success.

Large quantities of game, furs (beaver, fox, bear, otter), and skins are obtained by the hunters and trappers of the northern states. The senseless and wasteful methods of the hunters threaten the speedy extermination of the buffalo.

The *Fisheries* of the lakes and rivers of the United States, though of great extent, are insignificant in comparison with the deep-sea fishing. Many thousand ships and millions of dollars are employed in the mackerel and cod fisheries on the "Banks," in the salmon-fishing of the Pacific, and in the pursuit of whales and seals in the oceans of both hemispheres. The produce of this activity forms one of the most important items in the trade of the Union.

3. **Mineral Products.**—So far as our present knowledge permits us to say, the mineral wealth of the United States may be called practically inexhaustible. Both in the quality and the quantity of its minerals the Union is unsurpassed by any other country in the world.

First in importance stands *Gold*, which is mined mainly in *California*, *Colorado*, *Nevada*, New Mexico, Nebraska, Arizona, Utah, Oregon, and Idaho. Smaller quantities are produced by Georgia, Carolina, and Virginia, which were long the only states in which gold was known to occur. Of late years the annual gold production of the United States has amounted to about 30 million dollars; the surplus over what is required in the country itself, amounting to about 80% of the whole, pays for part of the imports from Europe, and for the colonial products brought from the West Indies and Brazil.

Silver was formerly found only in argentiferous lead ores, but in 1867 silver mines of incalculable value were discovered in Nevada, Idaho, and Utah, and the annual value of the silver production is now over 70 million dollars.[1]

The total value of the precious metals raised in the United States in 1891 was estimated at 108 million dollars (upwards of £21,000,000), *i.e.* more than one-third of the entire production of the globe. In the period 1845–85 the value of the silver yield was 700 million dollars, and of gold 1656 million dollars, or together 2356 million dollars (£471,000,000.) This sum, huge as it is, would be considerably increased if we could add the value of the gold disposed of without record by private sale, or that of the large "nuggets," some of which are valued at millions of dollars.

California produces annually about 4,000,000 lbs. of *Quick-*

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[1] In Nevada there are mines (such as the Comstock, near Virginia City) which have yielded as much as 300 tons of silver ore per day.

silver, equal to about three-fifths of the entire yield of the world. The richest mines are those of New Almaden and New Idria.

Lead is found in great abundance in Wisconsin, Missouri, Iowa, Illinois, and Arkansas.

Zinc, the yield of which is exceeded only in Prussia and Belgium, occurs in Pennsylvania, Missouri, and New Jersey.

Copper is found in Michigan,[1] the Alleghanies, and California. The yearly production is about 100,000 tons, or one-fourth of the entire production of the earth.

Iron is found in almost all the states, most being at present produced in Pennsylvania, Ohio, Illinois, New York, and Alabama. A very important fact is that the iron almost invariably lies near the surface, and can be mined with great ease. In the State of Missouri there are three hills, 230–700 ft. high, which consist almost wholly of iron ore (hematite), and could alone supply all the iron that the United States can want for thousands of years. It is, however, only of late that the annual production of pig-iron (8,200,000 tons in 1891) has been sufficient for the home consumption. Iron-mining is much facilitated by the fact that most of the iron-mines are contiguous to the coal-fields.

The *Coal-fields* of the United States, covering an area of upwards of 200,000 square miles, are more extensive than all the known coal-fields of Europe taken together. They lie chiefly to the west of the Alleghany Mountains, and the seams are generally near the surface. The *Mississippi Basin* forms practically one huge coal-field, but Michigan, Pennsylvania, Maryland, Virginia, Texas, and the Pacific States also possess more or less rich beds. Up to the present time about 70% of the total yield, amounting to 101,000,000 tons per year, has been raised in Pennsylvania. This inexhaustible supply of fuel ensures an immense industrial development for the Union, especially in the working of metals.

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[1] The richest deposits of copper occur in the peninsula of Michigan in Lake Superior, near the river Ontonagon, in the bed of which a solid mass of copper has been found weighing 470 tons.

The *Petroleum Wells* of Pennsylvania, Ohio, New York, West Virginia, Kentucky, etc., yield an article of commerce of the first importance, great part of the world's supply of which is produced by America.[1] The first petroleum spring was discovered in Pennsylvania quite by chance in 1859; oil-wells have also been found in California and other western states. The annual yield is between 30 and 40 million barrels, each barrel containing 40 gallons. In 1882 the maximum produce of 105,000 barrels per day was attained.

Of *Salt* also the United States possess enough and to spare. Salt-pans and salt-mines occur in Virginia, Kentucky, Iowa, Missouri, Nevada, etc. Large quantities of salt are also obtained by evaporation from the great salt-lakes of the west, and from the ocean on the east coast.

A large quantity of sulphur is obtained in the United States, and the other mineral resources of importance include saltpetre, alum, marble, plaster of Paris, and borax.

The number, strength, and volume of the *Mineral Springs* in the Cordillera region are simply marvellous.

MANUFACTURES.

Manufacturing on a wholesale scale has been practised in the United States for the last sixty or seventy years only. Previously all the energies of the thinly-peopled country were absorbed by agriculture, mining, and foreign commerce, while most of the manufactured articles required were imported from England and other parts of Europe.

Scarcely, however, had the attention of the Union been turned to manufacturing, than it assumed dimensions such as we find in Europe in England alone, if even there.[2] All the conditions which make wholesale production possible are found here in almost unparalleled perfection. An extraordinary abundance of raw material and fuel, of means of communication, and of capital is fitly coupled with the most daring energy and love of enterprise in the people. Almost the only obstacle to the fullest development was the want of a sufficient number of labourers; but this want, which has proved fatal to the industry of so many other nations, awakened the unrivalled mechanical genius of the Americans, and led to the invention of machinery, which has brought about a veritable revolution in the domains of husbandry and manufacture.

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[1] Compare, however, p. 465.—TR.

[2] American industry was from the very beginning founded upon a large scale, and competition between the great manufacturer on the one hand and the small manufacturer on the other, is practically unknown.

All the industrial undertakings of the United States are on a colossal scale, because a gigantic capital stands ready for investment in anything that pays. No account is taken of material hindrances; they are generally removed by the simplest and yet most ingenious contrivances.

The large and rapid production of the comparatively thinly-populated country is only rendered possible by the most extensive use of machinery, especially steam-machinery. American manufactures are sometimes deficient in quality, owing to the haste of the manufacturers to grow rich; but wherever competition is to be feared this deficiency vanishes, and the quality becomes irreproachable. In fact, genuine material and solid workmanship are the peculiar characteristics of American productions; and all American goods manufactured for export maintain their market entirely on account of their excellence. In the matter of taste and elegance considerable progress has recently been made.

The busiest industrial districts in the Union are found in the north-eastern states, especially in *New York*, *Pennsylvania*, Maine, Massachusetts, New Hampshire, and in Maryland, Illinois, Ohio, and Michigan. But new industrial fields are continually being opened wherever there is a prospect of profit, or under the influence of outward circumstances, such as the abolition of slavery, the discovery of gold (as in California), or petroleum-wells, etc. Numerous cotton-factories have been erected in the southern states since the Civil War, and already they offer successful rivalry to the northern factories.

The American manufacturing industry is year by year freeing itself from dependence upon Europe, and although it has not yet succeeded in establishing its independence in all branches of industry, yet the Philadelphia Exhibition of 1876 opened the eyes of Europe to the unexpected fact that the great Republic is on the way, not only to be industrially independent of the eastern hemisphere within the next half-century, but even to enter into industrial rivalry with it.

Textile Industries.—*Cotton.*—In the cotton industry America is second only to Great Britain. In 1890 the United States contained 14,500,000 spindles, consuming upwards of 2,200,000 bales of cotton. There are more than 1000 cotton-factories, employing 220,000 hands, and producing goods to the annual value of 268,000,000 dollars (£53,600,000). About 90% of this total is produced in the north-eastern states; the rest in the south. The chief seats of the cotton industry are *Lowell*, the "American Manchester;" Baltimore, Paterson, Philadelphia, Cincinnati, and Columbus (in Georgia).

Wool.—The woollen factories in the United States number 2500, with 3,000,000 spindles, and employ altogether fully 221,000 hands, annually turning out goods to the value of 337,000,000 dollars (£67,400,000). The native supply of wool is insufficient to meet the consumption. The chief centres of this industry, the most prosperous branch of which is perhaps the carpet manufacture, are Lowell, Worcester, Philadelphia, New York, and Boston (shawls).

Silk.—The silk industry, though still comparatively new, is carried on in nearly 500 factories, employing 51,000 hands, and producing goods to the annual value of nearly 90,000,000 dollars (£18,000,000). The European manufacturers have already severely felt the consequences of American competition.

Metallic Industries.—The metallic industries of America have now attained enormous dimensions, owing to the immense supplies of ore and fuel found beside each other. The rapid development of the railway system has contributed most powerfully to the prosperity of these industries. More pig-iron is produced than in any other country, the quantity in 1890 being 10,000,000 tons. *Iron* and *Steel Goods* are produced to a correspondingly great extent. This industry centres in the Alleghanies; one-half of the production falling to Pennsylvania, while New York and Ohio are the states next in importance. The chief seats are *Pittsburg*, the "American Birmingham," with numerous iron and steel works, machine shops, foundries, etc.; New York, Patterson, Salisbury, Baltimore, *Cincinnati*, and Boston. Arms are manufactured at Harper's Ferry (in Virginia), and Hartford (in Connecticut); the Remington rifle factory is situated at Ilion in New York state. America is *facile princeps* in the manufacture of *Machinery*. The Americans endeavour to invent machines for every purpose under the sun, and from 15,000 to 20,000 patents are annually applied for at Washington. In the 5000 machine factories of the Union, 150,000 workmen are employed, and machinery to the value of 220,000,000 dols. (£44,000,000) annually produced. These factories are found in all spots where manufactures are prosecuted to any considerable extent; but the chief machine-making towns are *Pittsburg, New York*, Philadelphia, Cincinnati, Lowell, Baltimore, Louisville, and San Francisco. Steam-engines, fire-engines, locomotives, mining and agricultural machinery, sewing-machines (16,000,000 dols.), stoves, and safes are among the principal articles manufactured.

Most of these towns also have manufactures of *Copper*, *Tin*, *Tin-plate*, *Brass*, and *Bronze Goods*, which are produced in 12,000 establishments throughout the Union, to the annual value of 90,000,000 dols. (£18,000,000). Maryland manufactures large quantities of "Baltimore copper."

Silver-plated and German silver goods, largely used in the United States, are produced in extraordinary abundance.

Other Industries.—*Leather.*—The leather industry is carried on on an extensive scale in *Pennsylvania*, New York, and other states. The 5600 factories produce leather to the value of 200,000,000 dollars (£40,000,000); while boots and shoes to an equal value are produced in the 18,000 shoe factories. Over and above these totals must be reckoned all the other leather manufactures (straps, saddlery, etc.), in which competition is maintained even with Great Britain.

The American *India-rubber* works produce one-half of the india-rubber goods of commerce.

Glass to the value of 25,000,000 dols. is annually produced in 400 factories, which have entirely abandoned the old European methods of manufacture. The stamped glass of America is unexcelled.

Jewelry is made at New York, Philadelphia, and San Francisco. The importation of this and fancy articles generally is decreasing in face of the expanding home-production.

Watch-making in America has been brought to such a pitch of cheapness and excellence by the use of the most ingenious machinery, that not only is the home demand fully met, but a successful export-trade to Europe is also maintained.

Tobacco is prepared in 8000 factories, producing annually tobacco and cigars to the value of 120,000,000 dols. (£24,000,000). Large quantities are exported from Baltimore and other towns.

Breweries and *Distilleries* are found in all parts of the republic. About 330,000,000 gallons of beer, and spirits to the value of £30,000,000, are annually produced. The largest brewery (Taylor's) is situated at Albany; the largest distilleries at Chicago, Baltimore, and San Francisco.

The American *Chemical Factories* are distinguished by the completeness of their equipments and their large capacity for production; but antiquated systems of manufacture still generally prevail.

Oil Refineries are found in great numbers, and on the most gigantic scale in the neighbourhood of the petroleum-wells and at the seaports.

Sugar (50 factories) is refined to the yearly value of £32,000,000.

Huge steam *Flour Mills* are largely engaged in grinding for export. The total produce is valued at about £110,000,000 per annum. Enormous quantities of planks (annually valued at £44,600,000) are sawn in the *Saw Mills*, which are most numerous on the Mississippi and in the western states. *Preserved Meat* (pork, etc.) is prepared to the annual value of £60,000,000 at Chicago, Kansas, Cincinnati, and other towns. In the huge and splendidly organized slaughter-houses sometimes 800 cattle or 6000–9000 pigs are slaughtered in a single day.

Ship-building is carried on to a considerable extent, but was formerly of more importance comparatively than now. In the construction of iron and steel ships Americans have not attained such a high position as the British ship-builders, though this industry seems now to be advancing. The principal ship-building yards are situated at Portland, Boston, New York, Philadelphia, Baltimore, New Orleans, and San Francisco, and at some of the lake ports.

The building of luxuriously fitted *Railway-carriages* and other carriages represents an annual sum of £20,000,000.

The American manufactures of *Furniture* (£18,000,000), and *Musical Instruments* (Boston and New York), are now completely independent of European goods. The *Surgical Instruments* made in America are unrivalled. Among the remaining important industrial establishments of the great Republic should be mentioned the *Clothing-factories* (upwards of 7000, with an annual production estimated at £50,000,000), the *Paper-mills* (about 700, producing excellent paper to the annual value of £10,000,000), the *Printing-works*, and the spermaceti and blubber-boiling works. The movable houses of iron and timber form a unique manufacture.

The total value of the industrial and manufactured produce of the United States was estimated at 8,000,000,000 (£1,600,000,000) in 1890.

TRADE AND COMMERCE.

The United States are the second commercial power in the world, and are perhaps destined to become the first. They owe this pre-eminence to their favourable position betwixt two important oceans, to their advantageous coast-line, to their excellent and abundant means of communication, to the freedom of internal intercourse, and to the great capacity for labour and the bold enterprising spirit of their inhabitants. Commerce and its accompanying prosperity are continually being extended by the constant stream of immigration, the expansion of the cultivated area, and the multiplication of the means of communication.

The intelligent population strain every nerve to turn to account the rich treasures of their country, so that banks, financial institutions, and joint-stock enterprises of all kinds nowhere flourish so abundantly as in America. Thousands of such establishments spring up, though many are very ephemeral.

The government interferes as little as possible with commercial companies and undertakings, so that along with the numerous advantages of such institutions many evils also flourish, *e.g.* tariff-wars, bubble mining-companies, land-speculation, etc. But these only cast a faint shadow on the brilliant prosperity of the nation.

By far the most valuable branch of the commerce of the United States is the gigantic *Foreign Trade*, especially with Europe. At the same time, however, the prosperity of the foreign trade is to a large extent based upon the active *Domestic Trade*, to which therefore we shall first turn our attention.

Domestic Trade.—The domestic trade of America is facilitated by the most extensive and most complete system of communication in the world. The most important branch is formed by—

1. WATER-WAYS.—(1) The five great *Lakes* in the north are navigated by thousands of vessels, including 1000 steamers. The chief centres of trade are Rochester; *Buffalo*, a principal market for grain and flour; Cleveland, a seat of the iron industry; *Detroit*, with timber-trade; *Chicago*, on Lake Michigan, the greatest corn-depôt in the world and the centre of the preserved-meat trade; and *Milwaukee*, on the Michigan, second only to Chicago as a grain market.[1]

(2) The *Mississippi System* drains a basin 1,172,000 square miles in area. The chief centres of trade in this area are St. Paul; *St. Louis*, the most important seaport for the western states, situated at the junction of railways from all directions, visited annually by thousands of ships (2000 steamers), and carrying on active manufactures; *Louisville*, with cigar-manu-

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[1] The introduction of grain-elevators and grain-depôts has had a highly beneficial effect upon the development of the grain trade of America.

factures; and *Cincinnati*, on the Ohio, with trade in preserved meat, grain, and iron. This last-named town owns 300 steamers, and is annually visited by 4000 ships.

(3) Numerous extensive *Canals* unite the great lakes with the Atlantic Ocean and with the Mississippi, and have largely contributed to the prosperity of New York.

The total length of all the water-ways in America is estimated at 43,500 miles, of which nearly 4000 miles are canals. Thousands of vessels ply on these waters, including passenger-steamers which are quite unrivalled in any other continent both for size and luxurious equipment.

2. RAILWAYS.—Railways,[1] first introduced in 1830, have long united the principal towns in the United States. They are naturally most numerous in the eastern states. The principal junctions are:—

New York, whence lines radiate to the great lakes, to the west, and to the south; *Pittsburg*, *Cincinnati*, *Chicago*, *St. Louis*, and Kansas City. The first *Pacific Railway*[2] was completed in 1869, uniting New York with San Francisco, *viâ* Omaha, *i.e.* the Atlantic with the Pacific Ocean. This distance of 3250 miles is traversed by express trains in 5½ days; previously the post required 25 days.

One line was not, however, sufficient. Three other Pacific railways, one to the north, and two to the south of the first line, aim at uniting the two great oceans. All four lines are connected with each other, and with Mexico, by branch lines running north and south. Probably additional Pacific railways will be constructed in the course of time. These railways are of importance from many points of view. Politically they confirm the power of the "star-spangled banner" on the shores of the Pacific; commercially they knit the eastern and western states together in iron bands, and promote the trade between America and Asia; and in the third place they carry immigrants to the far west as the pioneers of civilization, to people the wilderness and to bring the treasures of the rich land to the light of day.

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[1] Although it is well known that the North American Railways are generally built with too little regard to solidity, yet all railways must not be judged alike. In the eastern states, where the railways were built for an already existing and considerable traffic, they present the appearance of English railways; but in the far west, where they are the "pioneers" of traffic, they are naturally enough somewhat primitive. The object there appears to be to build quickly and cheaply; safety is of secondary importance. But these railways often look less safe than they really are. The low tariffs and the attention paid to the comfort of the passengers correspond to the cheapness of laying and maintaining the lines. Government interferes little with these railway companies, beyond enforcing the payment of damages in the case of railway accidents.

[2] The *Pacific Railways*, which begin in the centre of the Union, are among the most gigantic enterprises ever chronicled. They ascend to the height of 4000–8000 ft. in crossing the Rocky Mts., and for thousands of miles run at an elevation of 4000 ft., protected against their most dangerous foe by means of enormous snow-sheds. Traffic is seldom interrupted even in the most severe and snowy winters. The construction of these railways, which must remain unprofitable for years, was rendered possible by the granting of immense tracts of land (about 300,000,000 acres) on both sides of the lines, to the railway companies, which dispose of them to immigrants.

The total length of American railroads at the end of 1892 was 171,000 miles, *i.e.* more than all the railways of Europe put together (114,000 miles); and the capital sunk in them was nearly 9700 million dollars (£1,940,000,000).[1]

Telegraphs extend to all towns of any importance. The total length of lines belonging to telegraph companies in 1891 was 210,000 miles. About 60,000,000 messages were transmitted from the 21,000 telegraph-stations. Submarine *Cables* extend from Florida to Havanna, and *viâ* the Antilles to Trinidad, and to Georgetown in British Guiana. The telegraphic communication with Europe passes partly by overland wire to Nova Scotia, whence cables stretch to England and France, with intermediate stations at Newfoundland, or St. Pierre island. There are also submarine lines between the Union and Nova Scotia and thence to Europe direct.

In 1891 the United States contained *Telephones* of a total length of 240,000 miles.

The *Postal-service*, with an income of £14,000,000, and an expenditure of £15,200,000, had in 1892 67,000 offices, through which 9,246,000,000 letters, post-cards, newspapers, packages, etc., were transmitted. Domestic money-orders to the value of £24,000,000 were issued. The United States have entered the universal Postal Union.

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[1] A few statistics will illustrate better than any description the rapid development of the American railway system; a development to which a great part of the prosperity of their country is justly attributed by the Americans. The Union contained 23 miles of railroads in 1830; 2800 in 1840; 9021 in 1850; 30,000 in 1860; 53,000 in 1870; 93,454 in 1880; 121,600 in 1883. In 1884, 335,000,000 passengers, and upwards of 400,000,000 tons of goods were carried by American railways. The goods-freight averages 1·2 cent (one halfpenny) per mile. In 1890 the gross receipts of all the American railways amounted to 1,003,000,000 dollars (£200,600,000), and their net receipts to 322,000,000 dollars (£64,400,000).

Foreign Trade.—The United States carry on trade in every quarter of the globe, and with every commercial nation on its surface. Their foreign commerce is almost entirely maritime, and finds a worthy rival in British commerce alone.

The chief sea-ports are as follows:—

New York is the leading mercantile city in America, and the second in the world. It is, indeed, in commercial matters but little less important than London itself, while its geographical position assures increasing prosperity. New York is at the same time an important manufacturing town, with 12,000 factories and 300,000 workmen; but the real importance of the town rests on its trade. It is the centre of the railway and canal system of the eastern states of the Union, and it is the seat of about 100 banks and insurance offices, of numberless joint-stock companies, of the American cotton exchange, and of exchanges for drugs and tobacco, while the great booksellers' fair is held here every July. New York also is an important money-market, with bankers' clearing-house, through which seven or eight millions sterling pass yearly. Its harbour, which is unexcelled in size and security, is annually visited by about 9000 deep-sea ships (including 1600 steamers), and by upwards of 13,000 coasting-craft. It is the chief port for the export of grain, petroleum, and tallow. It is connected by regular lines of steamers with all the important seaports in the world, the most active communication being maintained with Liverpool, Southampton, Havre, Hamburg, Bremen, Marseilles, Vera Cruz, Aspinwall, Havanna, Rio de Janeiro, Buenos Ayres, and with Australian, Indian, and Chinese ports.

Upwards of 60% of the total imports, and about 50% of the total exports of the United States pass through the port of New York, representing an annual value of about 1,000,000,000 dollars (£200,000,000).

Boston is the second commercial port on the Atlantic coast.

Philadelphia, situated on the Delaware, 90 miles from the sea, is a centre of the timber, grain, iron, and petroleum trades. About 3000 ships enter its harbour annually.

Baltimore, the leading town for tobacco, is entered and cleared by upwards of 3000 vessels annually.

Charleston, favourably situated for sailing-ships taking advantage of the trade-winds, has declined in importance since the growth of steam navigation. It has still, however, considerable trade in grain, rice, cotton, tobacco, indigo, tar, pitch, turpentine, etc.

Mobile, on the Gulf of Mexico, exports cotton, timber, and grain.

New Orleans, in a very unhealthy situation in the delta of the Mississippi, 85 miles from its mouth, is the most important city in the south of the Union and the leading *Cotton-market* in the world. It also has active trade in grain, flour, sugar, rum, timber, butcher-meat, hides, etc. New Orleans, which has been much benefited by the regulation of the mouth of the Mississippi, is the natural entrepôt for the entire basin of that river. Railways, sea-going steamers, and river steamers connect this town with the other chief towns in the Union, and with Mexico, Havanna, Liverpool, Southampton, Havre, Hamburg, etc.

Galveston is the principal harbour in Texas, and carries on an active trade in cotton, grain, and cattle.

On the Pacific coast of America, the chief seaport is *San Francisco*, which stands in regular communication with Yokohama, *Hongkong*, Honolulu, Auckland, Sydney, Panama, Callao, Valparaiso, and British Columbia. This city is the main prop of the American power on the Pacific Ocean; and it is the chief export town for the produce of the Pacific States, *viz.* grain, timber, fruit, wool, gold, and silver.

In 1892 the American *Mercantile Fleet* comprised 24,383 vessels, with an aggregate burden of 4,764,921 tons, including 6392 steamers with 2,074,000 tons and 17,991 sailing-ships with 2,690,000 tons; the greater part being coasting-craft and fishing-boats. In 1891–92 American ports were entered by 33,144 ocean-vessels with 21,000,000 tons, and cleared by 33,385 vessels with 21,100,000 tons. Only about one-fourth of the total tonnage was under the American flag. One of the remarkable features in the foreign trade of the United States is the comparatively small share which American vessels have in it.

The overland foreign trade, carried on with Canada and Mexico, is insignificant compared with the maritime trade.

The chief centre of the inland trade is *Chicago*, which lies at the junction of 25 railways. This city is the largest grain depôt in the world, an important market for pork and other animal produce, a great manufacturing town, and the leading commercial centre between New York and San Francisco.

IMPORTS AND EXPORTS.

The chief *Exports* in 1892 were *breadstuffs* (largely sent to Britain), valued at close upon £60,000,000; *raw cotton* (of which about half is usually sent to England), valued at £51,700,000; provisions, including beef, bacon, hams, and dairy produce, £28,000,000; petroleum, £8,920,000; animals, £7,300,000; iron and steel, and manufactures of these, £5,700,000; wood, and wood manufactures, £5,200,000; tobacco, cigars, etc., £5,000,000; copper, and manufactures of copper, £2,640,000; cotton manufactures, £2,500,000; leather, and leather manufactures, £2,400,000; oil-cake and meal, £1,940,000; coal, £1,700,000; resin, turpentine, etc., £1,600,000; chemicals, drugs, etc., £1,380,000; fruits, £1,300,000; seeds, £1,250,000; vegetable oils, £1,000,000; furs, hides, and skins, £960,000; fish, £900,000; paraffin, and paraffin wax, £790,000; agricultural implements, £760,000; etc.

The total value was about $1,015,000,000 (£203,400,000).

Nearly one-half of the total value is usually exported to Great Britain, which, however, re-exports a considerable proportion, either before or after manufacture. Germany, France, British America, Belgium, Holland, Mexico, the West Indies, South America, and Eastern Asia also share in the foreign trade of the United States, in the order in which they are named.

The chief imports into the United States in 1891–92 were as follows: *coffee*, £25,600,000; *sugar*, *molasses*, etc., £21,500,000; raw silk and silk manufactures, £11,200,000; wool and woollen goods, £10,200,000; chemicals, drugs, etc., £9,200,000; cotton and cotton manufactures, £6,300,000; iron and steel, and manufactures of these, £6,300,000; hides, skins, and furs, £7,400,000; fruits, £4,200,000; india-rubber, gutta percha, and their manufactures, £4,000,000; tea, £2,800,000; leather and leather manufactures, £2,600,000; tobacco, raw and manufactured, £2,600,000; glass and glassware, and earthenware, £3,500,000; tin, £1,700,000; etc.

The total value of imports in 1892 was 827,000,000 dollars (£165,000,000).

All the countries in the world contribute to the imports of the American Union. Among these Great Britain sends the largest proportion; next to which rank France, Germany, Cuba, Brazil, Canada, Eastern Asia, Italy, South America (colonial produce), and British America.

Of the exports of the United States 74·4% are agricultural produce, 19·26% are manufactures, 1·67% minerals, 3% forest produce, ·73% fishery produce, ·94% miscellaneous.

A peculiar feature in American commerce is the fact that the import of certain articles is practically a monopoly in the hands of a few large firms in New York, Philadelphia, Boston, Chicago, St. Louis, etc. In these cases a particular firm supplies the entire Union with some one article of commerce. This practice increases the difficulty of securing direct commercial relations with America.

In marked contrast to the general liberal characteristics of the Union stands its *Protective System*, which imposes very high import duties (in some cases 60% *ad valorem*) upon foreign goods. The object of this system is partly to foster and protect native industries and partly to furnish revenue. It cannot be denied that manufactures in America, like manufactures in

Russia, owe their present prosperity to this protection. It also maintains a high rate of wages, which, in conjunction with the cheapness of the necessaries of life, secures for the American workman a degree of comfort unknown to his European compeer. And, finally, it must not be forgotten that the American Union forms a complete and self-sufficient economical whole. The large surplus in the public treasury compels the government, however, to abate the duties on raw material, on partially manufactured goods, and on such manufactures as do not directly compete with native industries.

ALASKA.

The unique conditions of the territory of *Alaska* seem to require a few words.

This territory, occupying the extreme north-west corner of America, has an area of 586,000 square miles, with a population of 75,000, of whom only 400 are whites, 17,000 Esquimaux, 9000 Indians, and the remainder half-breeds. It is traversed by the last spurs of the Cordilleras, which here still attain a height of over 18,500 ft. (Mt. St. Elias), and are in many places covered with glaciers.

The chief river is the navigable *Yukon*, which has a breadth of several thousand yards.

The climate is milder than that which prevails in the same latitudes on the east coast of the continent, but it is too severe for the prosecution of agriculture; so that provisions require to be imported into the country.

The chief sources of wealth in Alaska are the *Forests* (firs and larches), *Minerals* (coal, graphite, copper, iron, and even gold and silver), and most of all *Fur-bearing* and *Marine Animals.*

The fur-trade, carried on by the Alaska Co., is the chief industry in Alaska; and sealskins, sea-otter skins, and other furs are annually exported to the value of £400,000. The Americans prosecute the hunting with much less recklessness than the Russians, from whom they purchased the territory in 1867 for the sum of 7,200,000 dollars (£1,440,000).

New Archangel and St. Paul, the chief seaports in Alaska, have communication by sea with San Francisco, whence the territory also derives its stores and provisions.

LATIN AMERICA.

The importance of the Rio Grande del Norte as an ethnographical boundary is equalled by no other river in the world. This river divides the Latin from the Germanic States of America.

The dominions acquired by the Spaniards and Portuguese in Central and South America were founded by the sword, not by the plough. Slavery and the oppression of the natives, who were often agricultural Indians, compelled, outwardly at least, to profess Christianity, were the inevitable accompaniments of the power of these nations. For centuries these wealthy colonial possessions were kept in a state of absolute dependence upon Spain and Portugal, who drained them of their wealth and rigidly repressed every sign of independence or free development.

When the Roman Catholic Church, which had hitherto been the highest authority in the eyes both of the creoles and the coloured population, forfeited this position in the present century, and when the Latin States of America forcibly freed themselves from their mother-countries (1810–24), the freedom thus acquired was no unmixed blessing. The sudden transition from the strict colonial government of the 18th century to the untrammelled self-government of the 19th century was accompanied by comparative anarchy in the immature political and social circumstances of the new republics.

The ethnological distribution in the Latin American States is of the most unfavourable nature. Barely 10% of the entire population are whites; the great bulk (75%) are half-breeds, in whom Caucasian, Ethiopian, and Indian blood is represented in all proportions and degrees; and the remainder of the people are independent or uncivilized Indians, and negroes, who (especially in Brazil) were retained in a state of slavery until very recent times. The whites appropriate all positions of influence, and in this land of the aristocracy of complexion look down with contempt upon the coloured population.

The last-named class, however, who have barely mastered the first elements of civilization, decide all public questions in these new republics by their numerical superiority at the poll; so that there is little cause to wonder that insecurity of life and property, civil wars, the decline of culture, and the absence of intelligent and disinterested statesmanship characterize these countries.

In these circumstances no stream of immigration from Europe can be attracted to the thinly-populated countries of Central and Southern America, the treasures of these rich lands lie useless, and trade and commerce make but slow progress.

Latin America thus forms a sombre background to the brilliant prosperity of Germanic America. Brazil, Chili, and the Argentine Republic alone offer partial exceptions to the rule.

A slight improvement has begun to show itself in those states which now enjoy political tranquillity, as, for example, in Mexico and the La Plata States. The Argentine Republic in particular, in virtue of the rapid stream of immigration and of its favourable climate, bids fair to play in South America the prosperous rôle played by the United States in the north. Immigration on a large scale is the only lasting or effective remedy for the evils under which the Argentine Republic and all the other Latin States in South America are now suffering. Ample inducement for such an immigration is offered by the various regions, with their different climatic advantages, but religious fanaticism and national jealousy have hitherto driven the reviving stream almost wholly to the north.

Spanish is the language of trade and common life in all these states, with the exception of Brazil, which was colonized by the Portuguese.

The Latin States of America include *Mexico*, the *Central American Republics*, *Brazil*, and the *Spanish States of South America*.

MEXICO.

SITUATION, BOUNDARIES, AREA, AND POPULATION.

The Republic of Mexico lies between 15° and 32° N. lat., and is bounded by the United States, the Gulf of Mexico (coast-line 1850 miles), Central America, and the Pacific Ocean (coast-line 4300 miles). It embraces an area of 750,000 square miles, and contains 10,400,000 inhabitants, of whom upwards of 8,000,000 are Indians and half-breeds and only about 2,000,000 whites.

Education and industry are alike at a very low ebb, chiefly owing to defective training and perpetual political revolutions. The lower classes, oppressed and ill-treated by the descendants of the Spaniards, are dull and unintelligent; the upper classes, including the clergy, are coarse and ignorant. The consequence is that agriculture and manufactures are almost at a standstill, law and order are in abeyance; and to all appearance there seems little prospect of any speedy improvement in these particulars.

Mexico, like all the Spanish-American republics, has adopted a more or less altered form of the constitution of the United States of North America. The national language is Spanish, and the predominant religion is Roman Catholicism.

PHYSICAL FEATURES, RIVERS, AND CLIMATE.

Mexico forms a wide table-land, supported on each side by mountains, descending steeply in terraces to the marshy coasts. To the north of the valley of Tehuantepec rises the plateau of Anahuac (5000–9500 ft.), studded with volcanic peaks, of which Citlaltepetel or Pic de Orizaba (17,880 ft.) and Popocatepetl (17,780 ft.) are among the loftiest summits in North America. The eastern range of mountains, the Sierra Madre, is continued to the north beyond the borders of Mexico, under the name of the Rocky Mountains.

There are few *Rivers* of importance in Mexico. The chief streams are the Rio Grande del Norte, forming the north-east boundary, the Tabasco, and the Colorado.

Three *Climatic Zones* may be distinguished in Mexico. On the east and west coasts (*tierra caliente*) a tropically hot and unhealthy climate prevails, with frequent earthquakes and hurricanes, and accompanied by yellow fever; the terraces on the east and west, and the lower plateaux (*tierra templada*), enjoy a temperate climate, where spring seems to be everlasting; while a cold zone is found on the more elevated table-lands (*tierra fria*), where snow falls in January and February, while the loftiest summits are snow-clad all the year round. The rainy season lasts from May till October. The eastern coast is moister and more unhealthy than the western. The mean temperature of Vera Cruz in January is 71·6° F., and in July 81·5° F.; and of Mexico 53·6° and 65·3° F. The rainfall at Vera Cruz is 186 inches per annum, and at Mexico 25 inches.

CHIEF TOWNS.

Mexico forms at present a confederation of 27 states, 1 district, and 1 territory. The chief towns are as follows (1884):—

Mexico (300,000 inhab.), federal capital, 7460 ft. above the sea-level.

On the East Coast.—Tabasco, *Vera Cruz* (24,000 inhab.), Tampico, Matamoros.

On the West Coast.—Tehuantepec, *Acapulco* (the best Mexican harbour on the Pacific Ocean), St. Blas, Gaymas.

In the Interior.—*Puebla* (112,000 inhab.), Oaxaca, Jalapa, Morelia, Guadalaxara (80,000 inhab.), Guanaxuato (56,000 inhab.), Querétaro, Zacatecas, Potosi.

On the Peninsula of Yucatan.—Merida (32,000 inhab.), and the seaport of Progreso.

On the Californian Peninsula.—La Paz.

In the Pacific Ocean.—The Revilla-Gigedo Islands.

NATURAL PRODUCTIONS.

Mexico is by nature one of the most favoured and beautiful countries in the world. Unfortunately, however, only a minute fraction of its riches is at present utilized. Mexico offers no exception to the pernicious system of land-distribution which prevails throughout all Spanish America; many of the peasants, as tenants under the most oppressive conditions, are compelled to toil for the benefit of large land-owners, who spend their lives in the towns.

1. **Agriculture** stands at a very low level, barely one-eighth of the surface having been cleared for tillage. Abundance of tropical plants grow alongside those of more northern regions. *Vanilla*, *Coffee* (in increasing quantities), *Cacao*, *Sarsaparilla*, *Jalap*, *Sugar-cane*, *Cotton*, are among these. *Henequen*, or *Sisal Hemp* (in Yucatan), is a plant that has recently sprung into great importance.

Maize is the staple article of diet in all parts of Central America; bread is there represented by *tortillas*, or toasted cakes of maize. The same grain also forms the usual fodder for horses. Beans (*frijoles*) are largely consumed by the poorer classes. Potatoes, batatas, tobacco, and various tropical fruits grow in considerable quantities; and the vine-cultivation might be advantageously developed.

Many kinds of valuable timber are found in the *Forests*, such as the *Guaiacum* (*lignum vitæ*), caoutchouc, cedar, Brazil-wood, Campeachy-wood (logwood), mahogany, ironwood, ebony, and rosewood. Ipecacuanha and other medicinal plants are also found.

Many species of cactus and of the agavé (or "American aloe") form prominent and characteristic features in Mexican scenery. The favourite national drinks *Pulque* and *Mezcal-spirit* are prepared from the agavé, some species of which also yield fibres capable of being spun, especially the *Henequen* above mentioned.

2. The breeding of **Domestic Animals** is becoming an occupation of considerable importance, and there are now numerous large cattle ranches in Northern Mexico and elsewhere, many of the cattle being sent into the United States. Mexico is estimated to contain 2,500,000 *Horses*, 1,000,000 *Mules*, 4,500,000 cattle, 7,000,000 sheep, and 6,000,000 pigs. Large droves of wild cattle and horses (*Mustangs*) roam on the savannahs.

3. The chief source of the wealth of the country is in its **Minerals.** Mexico is the richest silver-producing country in the world,[1] and contains also large quantities of gold and other metals. Scarcely a single metal is unrepresented in this country. The mining industry greatly fell off under the republic, and many mines were deserted. Latterly, however, it is being prosecuted again with much more energy, the capital for working the mines being largely supplied by the United States and Britain. The precious metals are found in greatest abundance on the plateau of Anahuac, gold being of much less importance than silver. The latter metal is annually raised in such quantities that the value of silver coin, bullion, and ore annually exported is from 6 to 8 millions sterling.

The copper, quicksilver, and lead mines are far less valuable. Iron, coal, and petroleum, though doubtless they exist in large quantities in Mexico, are scarcely worked. Precious stones, onyx-stones, and sulphur are also found.

MANUFACTURES.

In spite of all the rich natural advantages of the country, its political condition effectually checked the development of its manufacturing industry. In many respects this industry in Mexico is still in the most primitive state, and cannot supply some of the simplest national requirements.

Establishments of large size are found only at *Mexico*, *Puebla*, Querétaro, and *Valladolid* (Yucatan), which produce cotton goods (*mantas*), cigars, sugar, spirits, chocolate, coarse ironware, arms, soap, leather, etc. Most of these manufactures, however, are poor in quality and scanty in quantity. The goldsmiths' and silversmiths' work (at Guadalaxara), and the manufacture of feather-trimmings, enjoy a high reputation.

All manufactures of a finer class must be imported.

TRADE AND COMMERCE.

Its natural riches and its favourable geographical situation might easily enable Mexico to become one of the chief commercial nations in the world. There is scarcely an article known to trade that might not be produced in Mexico. The internal political disorder has been naturally very unfavourable for trade, but the comparative tranquillity of the last few years has been followed by a considerable commercial revival.

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[1] Between 1521 and 1875 Mexico is said to have produced 583,000 lbs. of gold and 168,000,000 lbs. of silver, and to have exported these metals to Europe to the value of £723,000,000.

Domestic Trade, rendered sufficiently difficult by natural obstacles, is also hindered by the absence of nearly all means of communication, and by the insecurity of those roads that do exist. Most of the so-called roads are merely bridle-paths, on which goods must be carried by sumpter-animals. The few roads in the ordinary acceptation of the word (*camino real*) are very inferior, and are often interrupted by the want of bridges, etc. Buying and selling is most extensively carried on at the *Ferias* or fairs, which are held at the same dates as the principal church-festivals.

Railways were introduced into Mexico as early as 1843, and that country now contains about 6600 miles of railways in operation. The chief railways, in addition to numerous local lines, are those from Mexico, the capital, to the port of Vera Cruz, and from Mexico to the United States at three different points on the northern frontier. New York may now be reached from the capital in five days. The rapid development of the Mexican railway system (especially the connection with the United States) is entirely due to the energy of citizens of the States, whose influence has increased in the country along with the extension of railways. Considerable interest has been excited by the proposal of Mr. Eads, an American, to construct a *Ship-railway* across the Isthmus of Tehuantepec; but this scheme is not likely to be carried out, especially since the Nicaragua Canal has been begun.

In 1892 Mexico possessed 31,250 miles of *Telegraph-lines*, with 800 telegraph-stations. In 1892 the *Postal Service* forwarded 115,000,000 communications by means of about 1300 offices.

Foreign Trade.—Before the proclamation of the republic in 1821 the trade of Mexico was closed to all countries except Spain; but since that event Mexican foreign trade has almost wholly passed into the hands of foreign nations. The Mexicans themselves preserve a strictly passive attitude in the matter. The United States, Great Britain, France, Germany, and Spain furnish Mexico with manufactures in exchange for raw produce.

The chief seaports are:—

1. On the Gulf of Mexico.—*Vera Cruz*, the chief harbour in the country, carrying on two-thirds of the trade, situated in a very hot and unhealthy region. The chief exports are silver (£2,500,000), gold, coffee, sugar, vanilla, tobacco, etc. Most of the imports into Mexico are landed at Vera Cruz, which is regularly visited by the steamers of the Hamburg and American Steam Packet Co., the Compagnie Transatlantique, the Harrison line (from Liverpool), Royal Mail Steam Packet Co., Lopez and Co. (Cadiz), and the United States and Mexican Mail Steamship Co. (New York). *Tampico*, which exports chiefly animal and vegetable produce, is quite as unhealthy as Vera Cruz, but its harbour is now superior.

2. On the Pacific Ocean.—*Acapulco* possesses an excellent roadstead, to the north-east of the Gulf of Tehuantepec, but is also unhealthy. Mazatlan and La Paz are respectively on the east and west coast of the Gulf of California. The Pacific ports are frequented chiefly by British and American vessels. The customs duties are exceedingly high (in some cases 100% *ad valorem*), in consequence of which smuggling flourishes and cheats the government of about one-third of the legitimate customs revenue.

Mexican ports were entered in 1891 by 5164 vessels, with an aggregate burden of 2,500,000 tons. The Mexican mercantile fleet comprises about 420 vessels, including a few steamers.

IMPORTS AND EXPORTS.

The chief *Exports* are *silver* coin, bullion, and ore (to the value of about £8,000,000), *henequen*, *coffee*, *timber* (logwood, mahogany, etc.), *hides*, *tobacco*, vanilla, cochineal, lead, copper, gum, cacao, jalap, cattle, horses, pearls, pearl-mussels, etc.

The chief *Imports* are linen and cotton goods (from England), silk, shawls (from France and Prussia), paper, glass, porcelain, Parisian goods, wine, and oil (from France and Spain), flour, iron, machinery, and dried fish (from the United States).

The total annual trade represents a value of about £25,000,000, of which £9,000,000 are imports. In 1892 the United States received exports from Mexico valued at about £10,000,000; Great Britain £3,000,000; France £900,000; Germany £860,000. Imports from the United States were valued at £4,500,000; from Britain £1,500,000; from France £1,000,000.

CENTRAL AMERICAN REPUBLICS.

The five republics of Central America lie between 8° and 18° N. lat., and are bounded by the Isthmuses of Tehuantepec and Panama, and by the Atlantic and Pacific Oceans. Their aggregate area is about 175,000 square miles, and their population is 2,700,000, most of whom are half-breeds and Indians. Not more than 150,000 are whites. Roman Catholicism is the predominant religion.

The constitutions of all these republics are modelled on that of the United States of North America.

The surface is generally mountainous, with an average elevation of 3630 ft., though a few points in the west rise to the height of 14,750 ft. Extensive table-lands are found in the interior, sloping downwards towards the east.

Volcanic eruptions and earthquakes frequently work great havoc here, as well as in other parts of Central America and in South America.[1]

The climate is on the whole warm but healthy; on the coast it is very sultry, and some districts are completely parched in summer. The climate among the hills, where perpetual spring seems to reign, is very well adapted for Europeans.

These countries are excellently watered, by means of numerous short rivers, in the basins of both the oceans. Lake Nicaragua (3500 sq. m.), surrounded by lofty volcanoes, is the largest lake. It discharges itself into the Caribbean Sea by means of the San Juan river.

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[1] In 1854 the old town of San Salvador was entirely destroyed by an earthquake.

STATES AND CHIEF TOWNS.

1. **Guatemala** (47,300 sq. m.; 1,300,000 inhab.).—*New Guatemala* (60,000 inhab.); San José, on the Pacific Ocean.

2. **San Salvador** (7500 sq. m.; 634,000 inhab.).—San Salvador (13,000 inhab.); San Miguel; La Union, a seaport.

3. **Honduras** (47,600 sq. m.; 333,000 inhab.).—Comayagua (8000 inhab.); Tegucigalpa (13,000 inhab.); *Omoa*, with the harbour of Puerto Caballos; the Island of Tigre, with Amapala, in the Bay of Fonseca; the Bay Islands in the Gulf of Honduras.

4. **Nicaragua** (52,300 sq. m.; 260,000 inhab.).—Managua (15,000 inhab.); Leon (former capital, 25,000 inhab.); Corinto (the best harbour on the Pacific Ocean)—Blewfields (chief town on the *Mosquito Coast*, inhabited by independent heathen Indians); San Juan de Nicaragua or Greytown.

5. **Costa Rica** (20,300 sq. m.; with 213,000 inhab.).—San José (12,000 inhab.); Punta Arenas (on the Pacific Ocean); Puerto Limon (a free port on the Caribbean Sea).

NATURAL PRODUCTS.

These regions, richly favoured by nature, resemble Mexico in their production.

The chief are as follows:—

1. Cacao, *Indigo* (San Salvador), rice, tobacco, sarsaparilla, mahogany, Campeachy and numerous other kinds of wood, caoutchouc, sugar, Peruvian balm (on the west coast); *Coffee* (in increasing quantities), cedar-wood (for cigar-boxes), and Brazil-nuts.

2. Cattle, hides and skins, mother-of-pearl. Guatemala at one time produced nearly one-half of all the cochineal of commerce; but since the discovery of aniline dyes the production has become insignificant.

3. Gold, silver, copper, iron, and lead. Mining is not, however, so far developed as even in Mexico.

MANUFACTURES.

The manufacturing industry is still in its infancy, and by no means meets the home consumption. It centres chiefly in the towns where sugar, cigar, and cotton factories are found.

TRADE AND COMMERCE.

Their natural riches and their position upon two great oceans assure the Central American states of a commercial importance, which has been considerably enhanced by the discovery of gold in California. Thus all the leading commercial nations have endeavoured to secure a firm footing on this narrow isthmus, though only the United States and Great Britain have succeeded in doing so. German ships, however, are also not rarely seen in the harbours.

The chief centres of trade are:

1. On the Caribbean Sea: Omoa, San Juan, and *Limon*.
2. On the Pacific Ocean: *Punta Arenas*, La Union, Amapala, and Realejo.

Little has actually been accomplished for the promotion of internal communications, though various schemes have been projected, *e.g.* a canal from Lake Nicaragua to the Pacific Ocean, and various lines of railways to connect the two oceans and to open up the interior. Costa Rica possesses 175 miles of railways, Honduras 50 miles (including the unfinished line from Puerto Caballos to the Bay of Fonseca), Nicaragua has 87 miles, San Salvador 29, and Guatemala 172 miles.

EXPORTS AND IMPORTS.

The chief *Exports* are the natural products already mentioned, to a total value of £4,000,000. Coffee far overshadows all other exports, and is in increasing demand.

The chief *Imports* are manufactures, especially woollen, cotton, and silk goods, iron and steel wares, arms, glass, porcelain, paper, books, wine, and all kinds of fancy articles. The total value in 1886 was £2,600,000.

The bulk of the Central American trade is carried on with Great Britain and the United States.

SOUTH AMERICA.

BRAZIL.

SITUATION, BOUNDARIES, AREA, AND POPULATION.

The Republic of Brazil lies between 4° N. lat. and 33° S. lat., and between 35° and 73° W. lon. It is bounded by the Atlantic Ocean (coast-line, 3700 miles), Paraguay, Uruguay, the Argentine Republic, Bolivia, Peru, Colombia, Venezuela, and Guiana, and embraces an area of 3,240,000 square miles, with a population of 12,000,000.

The inhabitants are principally half-breeds, in whom the negro blood predominates; 4,000,000 are whites (Brazilians, Portuguese, French, English, and Germans[1]), 6,000,000 are negroes,[2] and 1,000,000 Indians. The language of the country is Portuguese. The entire population, with the exception of a few Protestant communities, is Roman Catholic.

Brazil, long the only monarchy in America, was in 1889 converted into a republic, and is now officially known as the United States of Brazil.

The densest population is found on the coasts (5 to 30 per sq. m.); the interior (2,150,000 sq. m.), with the exception of the mining districts, is inhabited only by Indians.

Immigration is promoted by government, and many immigrants from Europe have entered the country in recent years, the number in 1891 being about 219,000, chiefly Italians and Portuguese.

Education in Brazil is still at a very low ebb, as may be gathered from the fact that barely 5% of the children of school age attend school. There is, of course, a great difference in this respect between the country and the larger towns. Many of the latter (especially Rio de Janeiro) contain advanced educational establishments, while great efforts have been made in recent times to improve the educational status of the whole country.

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[1] The Germans, about 200,000 in number, are found chiefly as agriculturists in the southern provinces (Rio Grande do Sul, Santa Catharina), or as merchants and mechanics in the larger towns. All attempts to promote wholesale immigration from Germany have failed.

[2] The principle of slavery was abolished in Brazil in 1871, though all slaves were not then liberated. All children of slaves, born after 1871, and all the slaves belonging to government (about 6000) became free. By this provision the planters were not suddenly deprived of their labourers, while the country generally had time to accommodate itself to the new circumstances. In 1885 slaves over 60 years of age were declared free, and finally, in May, 1888, all slavery was totally and unconditionally abolished. The liberated negroes exhibit little fondness for regular toil, so that the importation of Chinese labour is necessary.

PHYSICAL FEATURES.

Nearly two-thirds of Brazil is occupied by plains, the remaining third being covered with mountains and chains of hills running in all directions, and clad with impenetrable virgin forest. The mountains of Brazil proper are arranged for the most part in ranges running parallel with the coast, the different parts being distinguished by different names (Serra do Mar, Serra do Espinhaço, Serra das Vertentes, Central Range, etc.). Few peaks rise above 8850 ft.

The great Brazilian plain, forming the *Valley of the Amazon* or *Marañon*, stretches between the Brazilian mountains, the mountains of Guiana, and the western Cordilleras. Its northern and southern parts differ considerably. The hot and moist plain of the Amazon is covered with the most luxuriant forests in the world, but further south the mountains intervene and cause a want of rain, and wide grassy plains (*campos*) take the place of woods. The *Coast Plains* are narrow, but very fruitful, and abound in good harbours.

CLIMATE.

The valley of the Amazon exhibits all the climatic characteristics of the tropics, while the mountainous regions and southern coast plains enjoy a warm temperate climate. The mean temperature at Para in January is 81·3° F., in July 80° F.; at Rio de Janeiro, 79° and 68° F. Rain falls chiefly during the summer months; but it must be remembered that summer in the southern hemisphere is simultaneous with winter in the northern hemisphere. Snow and ice occur extremely seldom, even in the most elevated districts. The south-east trade-wind is the prevailing wind. The Brazilian climate may be described generally as healthy, though enervating for Europeans. Epidemics are frequent on the coasts (Rio de Janeiro).

RIVERS AND LAKES.

Rivers.—The chief river is the *Amazon* or *Marañon*, which in its course of 3500 miles receives upwards of 100 tributaries, some of which are larger than the Volga.[1] The chief tributaries on the right bank are the Ucayali, Purus, *Madeira*, Tapajoz, and Xingu; on the left bank the Japura and the Rio Negro, with the Rio Branco. The tide is apparent for 500 miles from the mouth of the Amazon, which is 200 ft. deep, and, including the island of Marajo (130 sq. m.), 57 miles wide. The rough water formed daily by the meeting of the river-current with the advancing tide is dangerous to shipping.

The Tocantins, Paranahyba, and San Francisco are also important rivers.

The *Parana*, with its tributaries the Paraguay and Uruguay, rises in Brazil.

The lakes are unimportant, and there are no canals. Nature, however, has united the basins of the Amazon and Orinoco by means of the Cassiquiare.

DIVISIONS AND CHIEF TOWNS.

The great bulk of the population and of the traffic is found on the coasts, where all the chief towns are situated.

Brazil is divided into 20 provinces or states and a Federal District (including Rio de Janeiro and its suburbs).

1. *Maritime Provinces.*—*Rio de Janeiro* (357,000 inhab.), Porto Seguro, *Bahia* or *San Salvador* (140,000 inhab.), *Pernambuco* (130,000 inhab.), *San Luiz de Maranhão* (35,000 inhab.), *Para, Belem* (40,000 inhab.), *San Paulo* (40,000 inhab.), Santos, Porto Alegre, *San Leopoldo* (the chief German colony).

2. *Inland Provinces.*—*Ouro Preto* (20,000 inhab.) and Dia-

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[1] The Amazon system is the largest river-system in the world, both in area (2,350,000 sq. m.) and in the size of its tributaries. The name is also written *Amazons* and *Amazonas*.

mantino in Minas Geraes (central point of the gold and diamond fields), Villa Boa, *Cuyabá* (capital of the province of Matto Grosso).

NATURAL PRODUCTIONS.

Few lands of the earth are so richly endowed by nature as Brazil in all the three natural kingdoms, though its riches have been utilized only to the smallest extent.

1. **Vegetable Kingdom.**—The tropical heats and extraordinary abundance of water in Brazil nourish a more extensive flora[1] than is found in any other part of the globe, but not more than 3% of the surface is cultivated. The remainder lies in its virgin condition. Agriculture is represented by plantations, managed in the most inefficient manner—often in the most wasteful and harmful manner.

The principal *Food-plant* is the manioc or cassava, the roots of which when grated and dried are known to commerce as tapioca or Brazilian arrow-root. Rice, black beans (a staple diet of the people), and flax are also largely cultivated. Cereals flourish luxuriantly in the south, but are so little cultivated that the greater part of the flour required by the country is imported. Brazilian planters prefer to grow produce for export, especially *Coffee*, the chief production of Brazil. The coffee-plant requires dry weather during harvest, and a heavy soil. The plantations are prepared by burning down a part of the forest, and planting the coffee in the space thus obtained. Every ten or twelve years the old plantations are deserted, and new ones prepared in the same way. Brazil is the chief coffee-producing country in the world, yielding one-half of the entire amount raised on the globe (6,000,000 to 8,000,000 cwts.; total production of the world about 14,000,000 cwts.).

Sugar, cotton, cacao, maté or Paraguay tea, and tobacco are also raised in considerable quantities; and fruit of the most diverse kinds, medicinal plants, etc., grow in the richest profusion.

The forests of the republic conceal untold wealth in the form of Brazil-wood,[1] rosewood, cedar, *caoutchouc*, Peruvian bark, resin, drugs, etc.; but, with the exception of caoutchouc (170,000 cwts.), their produce is hardly exploited at all.

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[1] About 20,000 species of plants have been found in Brazil.

2. **Animal Kingdom.**—Numberless wild animals are found, including jaguars, tapirs, monkeys, parrots, and edible birds, while the campos nourish enormous herds of half-wild horses and cattle, which yield hides, horns, and charqui (dried flesh). At least 500,000 head of cattle are annually slaughtered. The bones are converted into bone-meal, and the entrails into glue, candles, or manure. Sheep and pigs are largely bred in the south, whence wool and tallow are exported. Mules are found in all parts of the empire. The capture of tortoises, the eggs of which are used for the manufacture of oil, and the sea-fisheries are also important industries.

3. **Mineral Kingdom.**—Brazil is one of the richest metalliferous countries in the globe, but almost nothing is done to reap the abundant harvest. Scarcity of labourers and the want of easy and convenient roads are the chief causes of this neglect. No clearer proof of the decline of Brazilian mining can be given than the fact that nearly all the precious metals required for the coinage must be imported, whereas at one time 5,000,000 milreis[2] (£1,000,000) of silver and 7,000,000 milreis (£1,400,000) of gold were annually raised in the country itself. The prosperity of the diamond-fields, the most valuable of which are in the provinces of Minas Geraes and Matto Grosso, has also seriously diminished since the discovery of diamonds at the Cape.

Emeralds, rubies, topazes, tourmalines, fine amethysts, agates, etc., are also found in the same provinces.

Iron, *Coal*, and petroleum are said to be plentiful, but the methods of working these remain in the most primitive condition owing to the want of capital and the wretched means of communication. The few more skilfully managed mines belong to government, or to Englishmen or Germans.

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[1] The name of the country is derived from the Brazil or Pernambuco wood. About 400 different kinds of timber have been discovered in Brazil.

[2] 1 Milreis = 1 dollar = 4*s*. 1000 milreis = 1 conto.

MANUFACTURES.

Brazilian manufactures are also still in their infancy, and are found only in the large towns, where they are carried on on a larger or smaller scale by Europeans. Slaves used frequently to be employed in the factories. Steam-machinery is rarely found. The chief manufactures are sugar, tobacco, leather goods, coarse cotton cloth, soap, and all kinds of wooden goods. Machinery and ships are produced at the larger seaports. Speaking broadly, however, most manufactured goods must be imported.

The immigration of Germans has recently produced a considerable improvement in this department of industry.

TRADE AND COMMERCE.

Domestic Trade.—In the enormous and sparsely-populated republic of Brazil the domestic trade is, of course, dependent upon the rivers and upon the coast traffic. It is estimated that Brazil contains from 25,000 to 30,000 miles of water-ways navigable for steamers, and within the last few years a steadily progressive steam-shipping industry has been developed. The Amazon (as far as Tabatinga) and many of its tributaries (*e.g.* the Madeira to San Antonio and the Rio Negro to Sta. Isabel), the San Francisco, and the Paraguay (to Cuyaba), are all traversed by steamers. Since 1867 navigation has been open to all flags. The prosperity of Para is an excellent proof of how the interior of a country may be opened up and its produce utilized by the aid of the rivers; in 1850 the trade of Para was barely worth £600,000; in 1891 its exports were £5,628,000.

Railways (begun in 1854), which formerly only united the more important seaports with their immediate environs (100 to 200 miles distant), are now being carried farther into the interior, and it is proposed to extend them even to Bolivia. At the close of 1892 nearly 5000 miles were in use and 2800 miles under construction. Made roads, in the proper sense of the term, are found only in the neighbourhood of the large towns. In the interior of the country all goods have to be forwarded on mule-back by wretched tracks, so that, *e.g.*, five months are required for the journey from Rio de Janeiro to Cuyaba in Matto Grosso.

Telegraph-lines are almost confined to the coasts. They now have a total length of about 17,500 miles (besides the submarine cables on the coast), and there are about 2300 telegraph-stations. A submarine cable connects Pernambuco with Lisbon. In 1890 nearly 19,000,000 letters were transmitted by the 2740 post-offices of Brazil.

The *Coasting Traffic* is active. Eighteen lines of mail-steamers touch regularly at all ports between Para and Montevideo. The Brazilian *Mercantile Fleet* comprises 524 vessels, of which 136 are steamors.

Foreign Trade.—The foreign trade of Brazil, which is entirely maritime, consists in the exchange of Brazilian raw produce for manufactured articles.

The chief seaports are:—*Para* (for the produce of the virgin forests), *San Luiz de Maranhão* (for Northern Brazil), *Pernambuco*, and *Bahia*, the second commercial city in the country (sugar, coffee, and rum).

Rio de Janeiro, or *San Sebastian*, the leading commercial town, is the seat of all the large native foreign firms, the chief emporium for both imports and exports (nearly 50%), the starting-point of the coasting trade, and the chief station for all European and American vessels plying to the east and west coasts of South America.

Santos and *Porto Alegre* (coffee and tea). The latter is the chief port for the German colonies in Brazil, which are situated in its neighbourhood.

In 1889 and 1890 (two years) the harbours of Brazil were entered by 14,078 vessels, of 10,882,000 tons burden, and cleared by 13,731 vessels, with 10,277,000 tons; more than two-thirds of tonnage belonged to foreign vessels.

The foreign trade of Brazil is carried on chiefly with Great Britain, the United States, France, the Argentine Republic, and Germany.

Regular steam communication with Europe is maintained by the North German Lloyd, Austria-Hungarian Lloyd, Messageries Maritimes (Bordeaux), Liverpool, Brazil, and La Plata Co., Southampton Co., Navigazione Generale (Genoa), steamers from Hamburg to Santos, United States and Brazil Co. (New York), Pacific Steam Navigation Co., etc.

IMPORTS AND EXPORTS.

The chief *Exports* are *coffee* (70 per cent of the whole in value), sugar, cotton,[1] india-rubber (£1,700,000 annually to Britain), Paraguay tea (*maté*), cacao, drugs, ipecacuanha, sarsaparilla, etc.; timber, tobacco, hides, leather, horns, and diamonds. The total value is about £39,000,000.

The chief *Imports* are *cotton goods* from England; fancy articles, dress, and clocks from France; iron and iron goods, coal, flour, and grain from the United States; wine from France and Spain; cloth, stoneware, hardware, paper, and porcelain from Germany; dried fish from Newfoundland and Norway, etc. The total value was nearly £39,400,000.

Large financial institutions have multiplied in recent times. The most important is the *Bank of Brazil* at Rio de Janeiro. Several provincial banks have their headquarters in the larger towns.

The customs duties on imports are very high; manufactures, *e.g.*, are taxed 40–50% *ad valorem.*

It should be noted that, speaking generally, no other government in South America has striven so earnestly for the improvement of the education, agriculture, and commerce of its subjects, as the Brazilian government. The main difficulties are found in the sparseness of the population, and in the large proportion of the indolent coloured inhabitants.

The chief hope for Brazil, as for the whole of Latin America, rests on a copious and steady stream of immigration from Europe. So long as the government is unable to attract such a stream, it must expect to see many creditable and useful schemes foiled.

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[1] The cultivation of cotton is declining in face of the North American competition.

THE ARGENTINE REPUBLIC, PARAGUAY, AND URUGUAY.

The similarity in the whole conditions of these three republics enables us to treat of them conveniently together. All three are occupied by boundless and generally fertile plains, through which flow the huge rivers Parana, Paraguay, and Uruguay, into the Rio de La Plata. The Andes rise in the west. The *Climate* is warm on the whole; there is no winter in the European sense of the word. The mean temperature at Buenos Ayres is 73·4° F. in January, and 53·6° F. in July. Most regions are rainy but very healthy, so that Europeans are everywhere able to carry on labour.

1. **Argentine Republic** (1,108,000 square miles, 4,000,000 inhab.). Chief towns: *Buenos Ayres* (550,000 inhab.); La Plata (65,000 inhab.); Cordova (66,000 inhab.); Tucuman; Santa Fé; Rosario (55,000 inhab.); Corrientes; Concepcion; Salta (cattle market). The part of Patagonia lying to the west of the Andes has also formally belonged to the Argentine Republic since 1881.

2. **Paraguay** (93,000 sq. m., with 500,000 inhab.). *Asuncion* (20,000 inhab.); Villa Rica.

3. **Uruguay** (73,000 sq. m., with 500,000 inhab.). *Montevideo* (115,000 inhab.); Fray Bentos.

These states of the River Plate are, like Brazil, populated by a mixed race, though, with the exception of Uruguay, the Indian blood predominates here. The Guachos are the characteristic examples of this race of mestizos. The pure white population is almost exclusively confined to the towns, and is already increasing in the Argentine Republic owing to the extensive immigration which is actively supported by government. In the period 1884–86 the average annual number of emigrants was about 100,000. The emigrants are chiefly from Italy and other Latin nations of Europe; for the natives of these countries are adapted to the climate, and akin both in religion and creed to the older population. The Argentine Republic contains about 500,000 foreigners.

Excluding the towns, the *Density* of the population is extremely slight, varying from 0·7 to 2·5 per square mile. The political tranquillity which these states have enjoyed for some time has had its effect on the educational condition of the people, for which much has been accomplished.

Paraguay, lying remote from contact with the outer world, is the most backward of these states in every particular.

NATURAL PRODUCTIONS.

Although agriculture is carried on, especially by the immigrants, it retires quite into the background in comparison with stock-farming. The land is to a great extent in the possession of *Haciendos*, or great land-owners, who retard agriculture by demanding excessive rents from both Indian and white tenants. Enormous herds of cattle (20,000,000), sheep (80,000,000), horses (6,000,000), mules (2,000,000), and goats (3,000,000), wander over the boundless pampas. The animals are so numerous as to be almost valueless; an ox *e.g.* is sold for 3–4 dollars. The cattle are slaughtered in the so-called Saladeros (slaughter-houses), and their flesh dried in long strips, while the hides, bones, tallow, and horns, etc., are prepared for export. Recently the preparation of extract of meat on Liebig's system has been carried on to a considerable extent at Fray Bentos and other towns. The total value of flesh-food (fresh mutton, preserved meat, etc.) annually exported from the States of La Plata is about £1,500,000.

Enormous quantities of wool (in 1886, 192,000,000 lbs.) are yielded by the flocks of sheep, so that the Argentine Republic competes with Australia for the mastery of the wool-markets of the world.

These countries are also rich in minerals. Gold, silver, copper, lead, coal, and petroleum are found; but the mining industry is still quite in its infancy.

TRADE AND COMMERCE.

The republics of La Plata have hardly any manufactures of their own, so that an active **Foreign Trade** is maintained, the imports being paid for in raw productions (animal productions). The chief centre of this trade is *Buenos Ayres*, which shares most of the steamer communications mentioned under Brazil (p. 552), and is also touched at by the steamers of the Hamburg Kosmos Co., and of the Hamburg and South American Steamship Co. Next in importance is *Montevideo*, also situated at the mouth of the river Plate, and visited by the same steamers. In 1890 the ports of the Argentine Republic were entered by 7100 foreign vessels, with an aggregate burden of 4,370,000 tons, of which 2,649,000 was British. Montevideo was visited by nearly 2500 vessels, with an aggregate burden of 2,500,000 tons.

The great bulk of the trade is carried on with Great Britain, France, the United States, Belgium, and Germany.

In 1889 the total value of the imports of the Argentine Republic was £32,900,000, of the exports £22,500,000; imports of Uruguay £6,800,000, exports £6,100,000; imports of Paraguay £320,000, exports £320,000.

The **Domestic Trade** has undergone a complete revolution since the introduction of railways to the interior; and this has been more markedly the case as the rivers, in consequence of their inconstant volume, by no means afford a good means of communication.

In 1892 the Argentine Republic contained 7700 miles of railways, Uruguay 750 miles, and Paraguay 45 miles. The chief lines of the Argentine Republic are the Central North Railway, from Buenos Ayres to Rosario, Cordova, and Tucuman (to be continued to Bolivia), and the Andes Railway, from Cordova to the foot of the Andes, over which it is intended to continue the line to Chili. These railways attract settlers to the uninhabited districts, and enable the hitherto almost valueless productions of the inland provinces to be turned to account. *Telegraph-lines* connect the principal towns and extend to Chili. The Argentine Republic contains 21,000 miles of telegraph-lines, over which 2,500,000 messages are annually sent. In 1890 the *Post-office* transmitted about 61,000,000 letters, and 44,000,000 newspapers, &c.

CHILI.

The Republic of Chili or Chile occupies a narrow strip of coast, nowhere broader than 160 miles, bounded by the Pacific Ocean, Peru, Bolivia, and the Argentine Republic.

Including the most recent acquisitions on the north and south and the territory on the Straits of Magelhaens, the republic embraces an area of 293,000 square miles, with 3,200,000 inhabitants (11 per sq. m.). The Chilenos are the most energetic and the quietest of all the Spanish-American peoples; and they do more for the promotion of popular instruction and the extension of higher education than any of their neighbours. As a consequence Chili has long been the most progressive of all the South American republics; and its diligent and energetic population devote themselves to the exploitation of its rich natural resources. The majority of the inhabitants are half-breeds, only about one-fourth being of pure Spanish blood. Germans, English, and other foreigners are numerous.

Nearly the entire country is mountainous. The Andes, with an average height of 8200 ft., have some summits rising above 19,650 ft.

The *Climate* varies greatly at different points, especially with regard to the rainfall. The north is sultry and rainless (desert of Atacama); the centre has regular winter rains; and the south has an abundant rainfall (120 inches) and a cool temperature. The mean temperature of Santiago is 70° F. in summer and 48° F. in winter; of Punta Arenas 52·8° F. and 37° F. Rain falls at Punta Arenas on 120 days in the year.

The chief towns are *Santiago* (250,000 inhab.); *Valparaiso* (150,000 inhab.); *Talca; Concepcion;* Caldera; Copiapo; Antofagasta; Iquique; *Valdivia,* with the harbour of Corral. Besides numerous coast islands, Juan Fernandez and Easter Island belong to Chili. Punta Arenas is a settlement on the Straits of Magelhaens.

NATURAL PRODUCTIONS.

The three natural kingdoms are all richly and variously represented in Chili.

1. **Agriculture.**—The busy agricultural industry yields *Wheat*, *Barley*, maize, beans, fruit, madder, and flax, besides olives, figs, almonds, wine, etc. Large districts are still covered with forests, which afford excellent building and other timber. The *Alerce* or Chilian cedar is specially important.

2. **Live Stock.**—Large numbers of sheep and cattle are reared, besides horses, asses, mules, pigs, etc.

3. **Minerals.**—The chief wealth of Chili consists in its minerals. *Silver*, *Gold*, *Copper*, iron, lead, and *Coal* are worked in the north of Chili. Enormous quantities of *Nitre* are obtained in the Atacama desert.

MANUFACTURES.

Though the manufacturing industry of Chili is in many departments still in its childhood, it has yet attained a higher level than that of any other South American state. Mills, foundries, and tanneries are among the principal industrial establishments; but cotton and other factories (chiefly for the coarse varieties), and manufactories of plaited articles, dishes, metal goods, and other household utensils are also found.

TRADE AND COMMERCE.

The greater part of the **Foreign Trade** is carried on with Great Britain (50%), France, Germany, and the American States. The flags of England, Germany, France, and the United States are the most frequently seen in Chilian ports, where many subjects of these powers have places of business.

The chief seaports are *Valparaiso* (the most important Pacific harbour in South America), Pisagua, Iquique, and Coquimbo.

Regular steamship communication is maintained with Valparaiso both *viâ* Panama and *viâ* the Straits of Magelhaens. In 1885 the ports of Chili were visited by about 3100 sea-going vessels (2000 steamers), with a total burden of 1,500,000 tons. In 1891 the Chilian *Mercantile Fleet* comprised 147 vessels (30 steamers), with a total burden of 100,000 tons.

The **Domestic Trade** is much hampered by the mountainous character of the country; the lowest pass over the Andes (Pass of Antuca) is 6550 ft. above the level of the sea, all the others are 13,000 ft. or more. The government exerts itself to the utmost to extend and improve the roads, railways (1750 miles, a few branches among the Andes), and telegraphs (14,000 miles of lines). Valparaiso is connected with Buenos Ayres by telegraph. In 1890 the post-office transmitted 45,000,000 postal communications. Santiago is the chief centre of the inland trade.

IMPORTS AND EXPORTS.

The chief *Imports* are food-stuffs, etc.; clothing material and ready-made apparel; iron and steel wares; glass; fancy articles, furniture, wine, ice, paper, books, machinery, etc.

The chief *Export* is *cubic nitre*, or Chili saltpetre, a valuable manure, sent in large quantities to Britain and the continent of Europe; *copper* and *copper ore*, silver, and *grain;* with wool, timber, hides, etc. The trade is most largely carried on with Britain.

In 1890 the imports were valued at about £11,000,000, and the exports at rather more.

BOLIVIA, PERU, ECUADOR.

These three republics, situated on the Pacific Ocean, between the equator and the tropic of Capricorn, exhibit a rare uniformity both in their natural features and in their economical and social characteristics. Their western portions are occupied by the Andes, which rise steeply from the sea, but descend on the east in densely-wooded and gradual slopes (montañas) to the valley of the Amazon, which takes its rise among the Peruvian Andes. Bolivia, Peru, and Ecuador are traversed by several parallel chains of the Cordilleras, rising to the average height of 16,000 ft., and embracing extensive barren table-lands (Lake

Titicaca, 12,260 ft.). The highest summits of the volcanic Andes in Bolivia are the Nevado de Sorata (21,490 ft.) and Illimani (20,990 ft.); and in Ecuador Chimborazo (20,700 ft.) and Cotopaxi (19,495 ft.).

The east slopes of the Cordilleras, which are open to the trade-winds, are well-watered and extremely fertile; but the inclosed table-lands and the western coasts are to a great extent poorly supplied with water, and even at some points rainless. (This last fact accounts for the deposits of guano on the Chincha Islands, etc.) Owing to the great differences of elevation in the countries, all degrees of climate are met with, from tropical heat to arctic cold. The flora naturally corresponds to the climate. The mean temperature at Lima is 77° F. in January and 68° in July; at Quito 59·9° F. and 59·8° F.

1. **Bolivia** (about 508,000 sq. m., with about 2,300,000 inhab.).—*Sucré* or *Chuquisaca* (17,000 inhab.); La Paz (45,000 inhab.); Cochabamba; Potosi; Oruro.

2. **Peru** (about 430,000 sq. m., with 3,000,000 inhab.).—*Lima* (100,000 inhab.); Callao (34,000), a seaport; Arequipa; Huanca-Velica; Pasco; Tarma. The last four are mining towns.

3. **Ecuador** (254,000 sq. m., with 1,000,000 inhab.).—*Quito* (80,000 inhab.), 9500 ft. above the sea-level; Guayaquil (40,000 inhab.). Galapagos Islands.

By far the greater proportion (80%) of the inhabitants are half-breeds or Christianized Indians; 10% are uncivilized Indians; and 10% are whites (creoles). Foreigners (not more than 30,000) are met with only in the mining and trading towns; 20,000 are found in Peru. There is no attempt to promote popular education. Since their forcible separation from Spain, the political, social, and financial condition of these republics has been the worst on the continent; while the war with Chili has thrown them into such a desperate state of chaos that it is impossible to say when or how an improvement may be effected.

NATURAL PRODUCTIONS.

So far as the climate and the fertility of the soil are concerned, these countries might contribute to commerce enormous quantities of tropical and other productions; while the mineral riches of the Andes, though now hardly touched, were at one time proverbial. But both husbandry and mining are in a very backward condition. The following are the chief productions of the respective countries:—

1. *Bolivia* produces silver in large quantities,[1] gold, copper, tin, and lead; and also Peruvian bark (the best variety), coca, cacao, and tobacco.

2. *Peru* produces guano (in much smaller quantities than formerly), metals (silver, copper, quicksilver), cotton, sugar, Peruvian bark, alpaca and lama wool, also coffee, cocoa, rice, maize, india-rubber, drugs, etc.

3. *Ecuador* produces in the first place cacao (by far the largest export), which grows wild in the forests, though it is also cultivated; and, in the second place, Peruvian bark, caoutchouc, Brazil-nuts, and coffee.

The manufacturing activity of all three republics is confined to the production of the absolute necessaries of life, together with a little leather, spirits, coarse cloth, and (in Ecuador) so-called Panama straw-hats.

TRADE AND COMMERCE.

Internal communications in these countries are naturally immensely retarded by the gigantic mountain ranges, while navigable rivers are found only in the uninhabited plains of the east. Roads, in the European sense of the term, are entirely absent, and goods are generally forwarded on pack-mules.

Ecuador contains only 63 miles of *Railways*, Bolivia about 500 miles, and Peru has upwards of 1600 miles. Between 1870 and 1880 the last-named country has constructed two of the most imposing railways in the world; one, from Mollendo *viâ*

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[1] According to Soetbeer's calculations Bolivia (formerly united with Peru) produced in the period 1545–1875 silver to the value of £360,000,000 and gold to the value of £40,000,000. In 1890 Bolivia produced silver to the value of £2,300,000.

Arequipa to Puno on Lake Titicaca, reaches the height of 15,585 ft. above the sea-level; the other, from Callao to Oroyo, is not yet completed, but has attained at Chicla the height of 12,210 ft. Both railways are intended to be continued eastwards to the Amazon, and to attract the export trade of Bolivia. The present financial condition of the country, however, gives little hope of their immediate development.

The principal towns are connected by *Telegraph-lines* and *Postal-services;* and Valparaiso is the terminus of a submarine cable.

The **Foreign Trade,** which consists in the exportation of the above-mentioned raw produce and the importation chiefly of manufactured goods, centres in a few of the seaports. The chief are as follows:—

1. *In Peru.*—Callao,[1] one of the principal seaports on the Pacific; Trujillo; and Mollendo.

In 1891 the imports were valued at 14,760,000 soles[2] (£2,950,000); the exports at 12,869,000 soles (£2,570,000).

2. *In Ecuador.*—Guayaquil, with a good harbour.

In 1891 the exports were valued at about 7,350,000 sucres[3] (£1,490,000); the value of the imports about the same.

Bolivia has no coast-line. Most of its foreign trade passes through the harbours of Chili and Peru; some also through the Argentine Republic. In 1885 the imports were valued at 6,000,000 bolivianos[4] (£1,400,000); the exports at 10,000,000 bolivianos (£2,000,000).

The whole foreign trade of the republics is in the hands of the English, Americans, and other foreigners, whose ships regularly ply to the above-noted seaports. The trade-routes are either *viâ* Panama, or round Cape Horn (or by the Straits of Magelhaens).

COLOMBIA.

The United States of Colombia, formerly known as *New Granada,* embrace an area of 324,500 square miles, with a population of 3,000,000. This territory is traversed by the Andes, which here divide into three chains, and it is watered by the Magdalena (with the Cauca) and by the head-waters of the Orinoco, while it borders on both the Pacific Ocean and the Caribbean Sea.

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[1] In 1885 Callao was entered by 481 deep-sea ships (274 steamers) and 914 coasting-craft.

[2] 1 sol = 1 dollar = 4s.

[3] 1 sucre = 1 dollar = 4s.

[4] 1 boliviano = 1 dollar = 4s.

The *Chief Towns* are *Bogota* (100,000 inhab.), Cartagena, Colon and Aspinwall, Panama (18,000 inhab.), Savanilla, and Baranquilla.

The most important commercial productions are Peruvian bark (exported to the value of £600,000), coffee, tobacco, Brazil-nuts, caoutchouc, timber (fustic, railway sleepers, etc.), cattle and hides, gold, and straw-hats. Nearly all manufactured goods are imported.

Trade and Commerce.—Traffic in the interior is very poorly provided for. The rivers are interrupted by rapids and bars, there are only 160 miles of railway in the country, and the breakneck roads often compel the use of porters to transport goods. The foreign trade is chiefly in the hands of English, American, German, and French merchants. The Colombian ports are visited by eight lines of steamers. The imports are valued at 14,000,000 pesos[1] (£2,800,000); the exports at 8,000,000 pesos (£1,600,000).

The *Transit-trade* of Colombia is of great importance, owing to its possession of the *Isthmus of Panama.* The short railway (47 miles long) across the isthmus from Panama to Aspinwall has lost some of its consequence since the Pacific Railway united the eastern and western states of North America. The number of passengers is now insignificant, and even the goods-traffic has seriously fallen off. It is still, however, an international trade-route; for steamers to San Francisco and to Valparaiso still ply from Panama in connection with the routes across the Atlantic.

The whole trade and traffic of the countries on the Pacific Ocean will be revolutionized by the completion of the *Panama Canal.*[2] The United States will probably reap the greatest advantage from this undertaking, for it will reduce the voyage from New York to San Francisco from 16,000 miles to about 4200 miles.

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[1] 1 peso = 1 dollar = 4s. nominal.

[2] The canal is to be 45 miles long, and without locks. It follows the course of the

VENEZUELA.

The Republic of Venezuela[1] embraces an area of 640,000 square miles, with a population (1886) of 2,200,000, of whom only 1% is white (besides 35,000 foreigners). The principal river is the Orinoco, on the banks of which stretch the low-lying llanos. To the north of the Orinoco extend the coast-mountains of Venezuela, and to the south rises the Sierra Parime. The loftiest summits are upwards of 13,000 ft. high.

The tropical *Climate*, with a dry season and a rainy season, is oppressively hot on the coast. At La Guayra the mean temperature in January is 75·5° F., and in July 79·8° F. The climate in the more elevated regions is milder and tolerable for Europeans; but the delta of the Orinoco is very unhealthy. Earthquakes, often destructive (Caracas 1812), are frequent.

The *Chief Towns* are *Caracas* (70,000 inhab.), Maracaybo, Valencia (36,000 inhab.), Puerto Cabello, La Guayra, Barinas, and Ciudad Bolivar.

The soil is extremely fertile and the vegetation exceedingly luxuriant, but little advantage is as yet taken of this richness. Cattle and horse breeding, carried on as in the Argentine Republic, has flourished on the llanos since the 16th century. Mining for gold, silver, and copper is carried on.

The economical condition of this naturally rich country has much improved within recent years, especially since comparative tranquillity in political matters has enabled the national

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Rio Chagres, crosses the watershed at Mt. Culebra by means of a cutting 300 ft. deep, and then follows the course of the Rio Grande to Panama. It is to be 165 ft. wide in the level ground and 92 ft. among the hills, and 26 ft. deep. It was estimated that the cost would be about £24,000,000 (excluding the purchase of the Panama Railway for £3,500,000). The canal was begun in 1881; its completion, fixed by the Colombian government for the year 1893, must still be years distant, if indeed the undertaking will ever be completed. The French company that was engaged in its construction carried on the work till 1887, when, after an enormous expenditure of money (about £50,000,000), it fell into difficulties, and subsequently suspended payment. Rains and floods have already rendered much of the work done useless.

[1] Venezuela was discovered by Columbus in 1498.

finances to be placed on a better footing. Machinery has been introduced on the coffee and cacao plantations and at the mines, and roads, and even railways (300 miles in all), have been constructed. The chief *Exports* are *coffee* (in some years exported to the value of £3,000,000), *cacao* (valued at from £300,000 to £400,000 annually), tobacco (Barinas-leaves), cotton, dye-woods, hides and skins, horns, *gold*, and copper. Flour, and various kinds of manufactured goods, are imported. The foreign trade, which is chiefly in the hands of foreigners (Americans, Germans, British), represents an annual turn-over of over £7,000,000 (imports 83,500,000 bol.;[1] exports 100,500,000 bol.). The chief import from Britain is cottons. La Guayra and Puerto Cabello are the chief seaports. Ciudad Bolivar (or Angostura), on the Orinoco, is a trading centre accessible to sea-going vessels.

HAYTI.

The Island of Hayti[2] has an area of 30,500 square miles, and 850,000 inhabitants, of whom 90% are negroes, and nearly 10% mulattoes. The few white people are found only in the coast cities. The island is divided between the two negro-republics of **Hayti** (9500 sq. m.; 550,000 inhab.), and **San Domingo** (21,000 sq. m.; 300,000 inhab.).

The climate is warm and moist (mean temperature of San Domingo is nearly 70° F.). The island is of volcanic origin, and has summits rising to upwards of 9800 ft. Many districts are extremely fertile.

The social and economical condition of this rich island affords a melancholy proof that negroes when left to themselves are not even able to maintain a civilization erected by the whites, much less to develop it. Since 1791, when the massacres of the whites began, revolution, cruelty, and the grossest corruption have prevailed in its public affairs. The cultivation of the plantations and the breeding of domestic animals are declining; the mineral riches of the country are not worked; manufactures scarcely exist; and the roads are

[1] The *bolivar* = 1 fr. = 10d.

[2] Hayti was discovered by Columbus in 1492, and named Española.

in the most wretched state. In a word those negro states are caricatures on true republics.

Husbandry is the chief occupation of the inhabitants, but only crops which do not demand too much labour are cultivated, while even upon these the minimum of attention is bestowed. The chief productions are *coffee* (5–6,000,000 cwts.), cacao, beans, tropical fruits, and tobacco. Dye-woods and other timber are obtained in the forests.

The *Foreign Trade*, which is almost entirely in the hands of English, French, German, and American merchants, consists in the export of the above-mentioned productions and the import of manufactured goods, butter, bacon, sugar, etc. In 1891 the total value of the imports was about £3,500,000; of the exports about £3,300,000.

The chief *Trading Centres* are:—(1) *In Hayti*—Port au Prince (30,000 inhab.), Jacmel, and Cap Haytien. (2) *In San Domingo*—San Domingo and Puerto Plata.

The island is regularly visited by German (Hamburg), English, French, and American steamers (in 1886 about 400).

AFRICA.

MOROCCO.

The Sultanate or Empire of Morocco, bounded by Algeria, the Sahara, the Atlantic Ocean, and the Mediterranean Sea, is one of the few coast regions of Africa that have hitherto remained free from European influence, and the only one of the once dreaded Barbary States that has maintained its independence. In its social and political organization, in its hatred of Christianity and its hostility to civilization, its senseless barbarism and misgovernment, Morocco is an epitome of the true Orient.

Its area, including Tuat, is 312,500 square miles, and its population is not more than 10,000,000. The majority of the inhabitants are Berbers; but Arabs, Moors, Jews, and Negroes are also represented.

The greater part of the country is mountainous, being traversed by the chains of the *Great* and *Little Atlas*, which reach the height of 10,500 ft. within Morocco, whence they are continued eastwards through Tunis to the sea. Most of the mountain valleys, and some of the plains (El Garb) are of extraordinary fertility. Towards the south the country, partly covered with steppes, gradually assumes the decided desert character of the Sahara.

Morocco is watered by numerous rivers, of which the *Mulvia* is the largest.

The *Climate* of the coasts is remarkably agreeable. The heat of summer is tempered by the winds from the Atlantic, while the lofty Atlas wards off the scorching winds from the Sahara.

The *Chief Towns* are *Morocco* (40–50,000 inhab.); *Fez* (about 100,000 inhab.); *Mogador*, *Mekinez*, *Tetuan*, *Tangier* and Rabat, Tafilet.

NATURAL PRODUCTIONS.

1. In spite of the inferior tillage the **Vegetable Kingdom** yields abundance of *wheat*, barley, *maize*, *rice*, *durrah* (staple food

of the poorer inhabitants), leguminous vegetables, sugar-cane, cotton, tobacco, hemp, *dates*, southern fruits, etc. The sandarach-tree, euphorbium, oak (oak-bark), and cork-tree also flourish.

2. The **Animal Kingdom** is well represented. Among the domestic animals are excellent horses (nearly as good as the Arabian), cattle, *Sheep*, asses, goats, and camels. Leeches and the kermes-insect are also reared. Lions, panthers, antelopes, and gazelles are hunted.

3. **Mining** is practically non-existent, although the country is said to be rich in minerals (copper, iron, gold, silver).

MANUFACTURES.

The manufactures are chiefly directed towards meeting the simple wants of the inhabitants. The only branch of greater importance is the *Leather Industry*, which includes the manufacture of morocco-leather (in Morocco), and Turkey or Saffian-leather (from Saffi). *Fezes*, *Weapons*, and a few varieties of woven goods (carpets, burnouses, etc.), are also made.

TRADE AND COMMERCE.

The advantageous situation and great natural wealth of Morocco eminently fit it to become an important commercial state. Its actual condition is far otherwise. The cruel despotism of the sultan, and the fanatical animosity of the population towards Christians and Jews, render any extensive commercial development quite impossible. The condition of trade may be guessed from the fact that export in general is forbidden; special permission is required in each case for the exportation of a particular quantity of a particular commodity.

The want of safe and convenient roads hamper the *Domestic Trade;* the *Foreign Trade* is carried on chiefly by the British and French.

The principal seaports are:—

Tangier, the seat of the European consuls, with regular communication with Gibraltar, Marseilles, Hamburg, and London; Casablanca; Mazagan, with an active shipping-trade; Mogador, ranking next to Tangier for the value of goods shipped.

In 1891 the ports of Morocco were entered by 2348 vessels, with an aggregate burden of 900,000 tons.

Tafilet is the chief rendezvous for the caravans towards the south; and *Tuat* for the caravans to Timbuctoo. *Tetuan*, *Fez*, and *Mekinez* are the chief emporia for the domestic trade.

IMPORTS AND EXPORTS.

The chief *Exports* are cattle, hides, skins, horns, leeches, wool, wax, grain, and leguminous vegetables, cork, oak-bark, salt, leather, fezes, and slippers.

The chief *Imports* are: (1) *By Sea*—Manufactured articles, woven fabrics, weapons, glass, gunpowder, raw silk, gold coins, sugar, coffee, wine. (2) *By Caravans* from the interior—Ivory, gold-dust, india-rubber, ostrich-feathers, and negro-slaves, which are bartered for arms, gunpowder, daggers, cloth, and trinkets.

The greater part of the foreign trade is carried on with Great Britain, France, and the Iberian peninsula. In 1891 the total value of the exports was £1,730,000; of the imports £1,835,000.

THE SAHARA.

The Sahara Desert, the largest desert in the world, is bounded by the African Mediterranean States, the Atlantic Ocean, the Sûdan, and the Valley of the Nile. It has an area of 2,575,000 square miles, with 3–4,000,000 inhabitants.

The Sahara is not a plain but a plateau (1300–1600 ft. above the sea-level), from which isolated mountains, rocks, and cliffs, and also whole chains and ranges project. A distinguished and lofty separating ridge (7500–9800 ft. high), with a luxuriant vegetation, divides the great desert into two halves. The Sahel, or western half, is an undulating expanse of shifting sand, very arid and almost destitute of vegetation; the eastern half, or "Libyan Desert," is of a more rocky character. The "oases" admit of human settlements, while they stand in the place of havens to the navigators of the shoreless sea of sand. Date-palms and dum-palms, as well as all kinds of grain, flourish on the oases, and other plant-life is found (though sparsely) throughout the entire desert, wherever the character of the soil permits of it.

The Sahara is divided into three *Ethnographical Sections*. The west is inhabited by *Moorish tribes* (Bedouins), the centre by *Tuariks*, and the east by *Tibbu*. These peoples are only partly settled, and alternately guide and plunder the caravans, according as each course appears likely to be the more lucrative.

Commerce obtains *Dates, Salt,* natron, saltpetre, and alum from the Sahara. Saline waters are abundant.

An important fact in connection with this desert is that the trade-routes between Northern and Central Africa traverse it. An active barter-trade takes place at fixed times at those oases where the different routes intersect.

The chief *Trade-Routes* are as follows:—

1. From *Tafilelt* (for Morocco and Algiers) *viâ* the oasis of Tuat to *Timbuctoo* on the Niger. Various secondary routes diverge from the populous oasis of Tuat to other oases.
2. From *Gadames* (for Tunis and Tripoli) to *Tuat* and *Timbuctoo* on the one hand, and on the other *viâ Ghat* and *Agades* (in the oasis of Asben) to *Sokoto* and *Kano.*
3. From *Murzuk* in Fezzan (or from Tripoli) *viâ* Bilma to Kuka on Lake Chad, the most frequented of all the desert routes.
4. From *Bengazi viâ* Ujila to *Wara* in the kingdom of Wadai.
5. From the *Nile Valley, viâ* numerous oases parallel to it, to *Darfur.*
6. The great route skirting the northern verge of the desert, and uniting the principal inland towns of the African Mediterranean States, is also worthy of mention.

The journey across the desert is only undertaken by caravans and generally for trading purposes, except in the case of Mahometan pilgrims. Even the latter, however, generally combine business with piety. The barren waste would be almost impassable without the camel, originally introduced by the Arabs. With the aid of the "ship of the desert," which travels at the rate of from 12 to 22 miles a day, the journey across the desert would be no more dangerous than any long sea-voyage, were it not for the human inhabitants of the former. The attacks of robbers, the legal and illegal plundering of the caravans, are the greatest dangers and the greatest impediments to peaceful trade. The perils with which caravans are threatened by the Simoom have been greatly exaggerated, and the fierce desert-lions exist only in the imagination of travellers, for the lion almost never approaches a caravan. Until quite recent years the Mahometan inhabitants have offered the keenest opposition to the coming of Europeans; they are unwilling to allow the latter to deprive them of the profitable trade.

CENTRAL AND SOUTHERN AFRICA.

For hundreds of years Europeans were content to plant small trading-posts on the edges of Africa, for the purpose of bartering with the natives for their scanty goods, but especially for slaves for the American plantations; but since the beginning of the present century the attention of Europe has been more and more directed towards the interior of the "Dark Continent." For the most part a purely scientific interest at first attracted bold explorers from all parts of Europe—north, south, east, and west—to penetrate the mysterious continent, and to attempt to lift the veil from its geographical secrets, even at the risk of their lives. It is to such men that we owe the fact that we have to-day a tolerably correct idea of Africa, though, indeed, only in broad outlines.

Livingstone and Stanley are the most prominent of these explorers; they have lifted the veil which concealed Central Africa proper, the best watered and most populous part of the entire continent.

Since the seventh decade of the century, especially since the exploration of the course of the Congo, practical questions have begun to loom more largely, side by side with the scientific problems. Africa was then brought into connection with the emigration and colonization question of Europe. To-day the states of Europe are competing with each other in occupying portions of the Dark Continent, in order to extend their trade and also for colonization purposes. Those portions of the coast that had long remained unappropriated have been quickly annexed, and in the interior, which ten years ago was wholly unexplored, the great *Congo State*, with an area of 1,000,000 square miles, has been founded.

The hopes which were built upon the new possessions, corresponding to the feverish haste to possess, seem, however, to have been exaggerated, and it is probable that in the next few years the tension will be much relaxed.

The most valuable and well-watered portions of Africa are situated, broadly speaking, between 15° N. lat. and 20° S. lat., *i.e.* in the tropics. To the north of this zone begins the Sahara, and to the south the South African barren plains and deserts. But even although the great fertility of Central Africa cannot be denied, the climate, as is universally the case in the tropics, is unhealthy for Europeans; in many districts, indeed, as for example on the coasts and on the rivers, which must in any case be first occupied, the climate is too deadly even for penal settlements. In the districts which may be described as more favourable, observations have not been carried on for a sufficient period to allow of any certain conclusions being formed.

Territories have been named as suitable for European agricultural colonies, *i.e.* as alternatives to North America as emigrant resorts, but none has yet been tested.

The districts of Central Africa which have as yet been more carefully explored appear to be adapted only for the plantation system of cultivation. For this purpose, however, the negro has yet to be trained to habits of industry, and even were this to be accomplished, the plantation system remains by its very nature incapable of any great expansion, for a large production of any article is immediately followed by a fall in prices, and its cultivation becomes unprofitable. The Dutch abandoned the "culture system" in Java, because, among other reasons, they feared that Java by itself would ruin the trade in certain colonial products by reducing the price too much in this manner.

The common expectations which were founded upon *Trade* with the secluded continent, seem also to have been far too optimistic. The exceedingly lucrative barter system is a wasteful and extravagant system, which can only exist for a brief space in face of the open competition which is destined to prevail in Africa. The natives must first undergo a course of training before any extensive and regular trade is possible, *i.e.* they must develop much higher needs, for the satisfaction of which they will be compelled to adopt systematic labour.

The suppression of the slave-trade will also be attended by enormous difficulties. In the first place slavery is perfectly justifiable in the moral code of the negro, while in the second place we have unfortunately to acknowledge that the slave-trade has enormously increased in Central Africa during the last five-and-twenty years, a fact closely connected with the spread of Mahometanism.

Africa thus represents a whole series of tough problems proposed by European civilization to itself. That these problems will one day be solved stands beyond a doubt, but generations must elapse before complete victory crowns the toilsome endeavour. The training of stubborn children of nature is the first problem to be faced in all questions as to the civilization of Africa; and the training of peoples, as we have learned from the history of European and American nations, is no light work, to be easily and quickly disposed of.

The *Independent Districts of Central and Southern Africa*, almost exclusively negro states, present, so far as we yet know them, a very uniform and generally unvarying appearance. Owing to the climatic conditions (8,600,000 square miles are situated in the tropics) the flora and fauna resemble those of Southern Asia, though they are not so various, abundant, or luxuriant. The most valuable plants are coffee, sugar, cotton, indigo, *Palms*, *Gums*, and valuable kinds of trees; the chief animals are *Elephants*, *Ostriches* (retreating further and further into the interior), and enormous quantities of wild-fowl. *Gold* and salt are the most important minerals.

Manufactures exist, though hardly worthy of the name. They are confined to satisfying the extremely simple wants of the natives, and include cotton cloth, basket-work, pottery, and some metal work.

Trade is carried on universally by caravans, and in Northern Africa attains very large proportions. Almost no attempt is made to promote communication in the interior by the construction of roads; and in many districts the goods must be transported on the backs of slaves. The inhabitants of other continents generally come in contact with the natives on the coasts, where hundreds of "factories" have been founded by the various nations of Europe. Europeans have taken possession of the north, west, and south, Arabs and Hindoos (Banians) of the east. The *Foreign Trade* is seriously retarded by the great want of good harbours and by the deadly climate which prevails on most of the coasts. This commerce is almost entirely carried on by barter, in which *Gold-dust*, *Ivory*, ostrich-feathers, caoutchouc,[1] palm-oil, palm-nuts, ground-nuts, gums, and timber are exchanged for European weapons, knives, gunpowder, cloth, glass and trinkets, and also spirits and firearms. The slave-trade is still carried on in the interior, in Lower Guinea, and on the east coast. Wherever Mahometanism supersedes heathenism money takes the place of the primitive barter system.

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[1] African caoutchouc has only recently been introduced to commerce, but the European demand for it is on the increase, since the caoutchouc of South America is beginning to become scarcer, in consequence of the senseless and extravagant manner in which the supply is managed. The African caoutchouc is not obtained from the *Siphonia elastica*, but from the *Vahea gummifera*, a creeper which is found in enormous quantities.

SENEGAMBIA AND UPPER GUINEA.

1. **Senegambia,** the country on the Senegal,[1] Gambia, and Rio Grande, is occupied by independent negro states, except in the districts subject to the European settlements on the coasts. The natives carry on trade with the latter, and with the Moors and Soudanese. *Senegal Gums,* ground-nuts, palm-oil, wood, ivory, gold, etc., are the chief productions.

2. **Upper Guinea** also contains numerous negro states. Different parts of its coasts bear the (European) names of Sierra Leone, Pepper Coast, Grain Coast, Ivory Coast, Gold Coast, and Slave Coast. Part of the Grain Coast is occupied by the negro republic of *Liberia* (14,450 sq. m.; 1,000,000 inhab.), founded as an asylum for freed slaves from North America. *Monrovia,* the capital, has 3000 inhabitants. The kingdoms of *Ashantee* (4,500,000 inhab.) and *Dahomey* are also situated in Guinea. These lands were at one time a favourite hunting-ground for the slave-traders. The chief production is palm-oil, next to which are ground-nuts, india-rubber, gums, ivory, gold-dust, pepper, and timber. The European goods imported are "guineas" (white and blue cotton cloth), spirits, weapons, gunpowder, etc.

SÛDAN, OR NIGRITIA.

The name of the Sûdan is given to a portion of Central Africa bounded on the north by the Desert, on the west by Senegambia, on the east by the Nile territories, while the southern boundary is uncertain. This generally flat region, bounded on the south-west by mountains rising to the height of 9800 ft. (Upper Sûdan), is situated within the zone of tropical rains. The chief rivers are the *Niger,* with the Benue, and the *Shari,* which falls into Lake Chad.

The most important town in the basin of the mighty Niger is **Timbuctoo,** surnamed the "Queen of the Desert," situated at the junction of five trade-routes of the first importance. It lies at "the nearest point of the most remote civilized countries in North Africa."[1] Large quantities of salt, gold, curo-nuts, ivory, india-rubber, etc., are brought to this market. Further down the Niger lie *Say*, *Bussa*, *Rabba* (an important slave-market), Eggan, and other mercantile and industrial places. *Socoto* and *Kano* are the principal towns in the **Haussa States.** Kano furnishes the whole of Central Africa with the prized blue cotton cloth; and both towns are important stations for the caravan trade.

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[1] The entire basin of the Senegal is practically a protectorate of France.—TR.

The kingdom of **Bornu,** thickly peopled and well cultivated, lies on the banks of Lake Chad (850 ft. above sea-level). The capital is *Kuka* or *Kukaua*, an important market town. Freedom of trade prevails in Bornu, and an effort is being made to establish a trade route hither from the Guinea coast up the Benue, in competition with the caravan-routes.[2]

On the eastern frontier of Bornu is the kingdom of **Bagirmi,** the capital of which is *Masenya.*

Still further to the east is the kingdom of **Wadai,** with *Abeshr* as its capital. The salt and copper trade with Bengazi and Siut is chiefly in the hands of Arabs and other immigrants from the Nile valley.

Darfur, like the equatorial provinces of Egypt, is at present in a state of political agitation, which effectually hinders trade.

The exits and entrances which the foreign trade of these lands must make use of, whatever their political fate may be, are in the hands of the British.

The commercial development of these luxuriant and populous regions of Africa is much retarded by the perpetual strifes waged by the petty negro states with each other, by the avarice and whims of the despotic rulers, by the jealousy of foreigners, and by the superstition, savageness, and boundless sloth of the natives.

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[1] The French have recently been attempting (not without success) to reach the formerly inaccessible Timbuctoo both from Senegambia and by ascending the Niger, and to confirm their influence by means of commercial treaties.

[2] Great Britain has established a protectorate over the Lower Niger and the Benue, which forms the sphere of action of the chartered Royal Niger Company.—TR.

THE SOUTH AFRICAN TRIANGLE.

A line drawn from the delta of the Niger to Cape Guardafui divides the compact mass of Northern Africa from a southern triangular portion, with its apex at the Cape of Good Hope to the south, and bounded on the east and west by the sea. This triangular portion forms a basin (about 3250 ft. above the sea-level), surrounded by mountain-ranges, in which table-mountains predominate. To the east of the Niger rise the Cameroons (13,000 ft.); in the south are the terraces of the Cape districts, with the more inland range of the Stormberg Mountains continued to the north-east by the Drakenbergs or Quathlamba Mountains; in the north-east, under the equator, rise Kilima-Njaro (19,500 ft.) and Mount Kenia; and beside the equatorial lakes stretch wide table-lands, with lofty dividing ranges.

South Africa contains numerous large rivers and a few great lakes. The *Congo*, *Cuanza*, *Cunene*, *Gariep* or *Orange River* fall into the Atlantic; the *Limpopo*, *Zambezi* (with the Shiré, the discharge of Lake Nyassa), and the *Juba* into the Indian Ocean. The *Sources of the Nile* are also found in this region. The Victoria Nyanza discharges into the north end of the Albert Nyanza, out of which the main stream of the Nile flows northwards. To the south-west of the Victoria lies *Lake Tanganyika*. The fact that nearly all the African rivers flow during the upper part of their course on table-lands, and have thus to descend to the coast by means of cataracts, often near their mouths, is the reason why they have been of so little importance for opening up the country. Even at the present time it taxes all the energies of Europeans to make the great streams of Africa serviceable for traffic and civilization above these dangerous rapids.

The coast from the mouth of the Niger to *Cape Lopez* is usually included in Upper Guinea; thence to *Cape Frio* it is called **Lower Guinea.**

Between the Niger delta and the mouth of the Congo the coast, and an indefinite extent of territory extending into the interior, mostly belongs either to the Germans or the French. The northern portion forms the German Cameroon territory, the southern the French Congo territory. Immediately to the south of the Congo are the Portuguese possessions of Angola and Benguela; German territory then extends on to Cape Colony. The natives of Lower Guinea exchange the productions of their country for cloth, weapons, spirits, trinkets, etc., imported by Portuguese, French, Dutch, and German traders.

The southern extremity of Africa is occupied by the British colonies of the Cape and Natal. Adjoining these, and entirely cut off from the sea, are two independent states, namely, the **Orange Free State** and the **South African** or **Transvaal Republic.** Both were founded by Dutch farmers (*Boers*), to whom the English rule in Cape Colony was distasteful.

The *Orange Free State* has an area of 48,000 square miles and a population of 208,000, of whom 77,000 are whites. The capital is *Bloemfontein*, with 3000 inhabitants. The *Transvaal Republic* has an area of about 117,000 square miles and a population of 770,000, of whom only 120,000 are whites. The capital is *Pretoria.* The breeding of live stock, mainly sheep, is the chief resource of the inhabitants, but since the discovery of gold in the Transvaal, troops of diggers, with their attendant industries, have streamed into the country. *Johannesburg*, the headquarters of gold-mining, is the largest town. Wool and gold are almost the only commercial productions of the South African republics. The construction of the railways from the Cape Colony and Natal into the interior must have a most beneficial effect upon the whole South African trade.

The east coast of the South African triangle is usually divided into three sections:—

1. **Kaffirland,** from Cape Colony to Cape Delgado. All of this region not occupied by the British is under the nominal protection of the Portuguese (*Sofala Coast*, *Mozambique*), who have ruined the trade by their short-sighted restrictions. The productions of the independent tribes in the interior (copal, skins, cocoa-nut oil, gold-dust, etc.) are brought to the coast by caravans, and there exchanged for articles imported by Portuguese, English, and other vessels.

2. The **Swahili Coast**, stretching from Cape Delgado to the equator, used to be under the suzerainty of the Sultan of **Zanzibar**, but is now divided between Germany and Britain. The town of *Zanzibar*, on an island of the same name (625 sq. m. in area), is the most important trading-town on the east coast of Africa, with a maritime commerce the annual turn-over of which is estimated at £2,000,000. Zanzibar is now under the protection of Britain, though still ruled by its sultan. It carries on a very active commerce with Arabia and India. Caravans maintain trade with the countries on the great equatorial lakes, and Zanzibar is the starting-point for almost every scientific or commercial expedition bound for equatorial Africa.

Zanzibar is one of the chief markets in the world for *Cloves* (£200,000), *Copal-gum* (£200,000), and *Ivory*. It also exports hides, orchilla, sesame, cowries, etc.; while it imports hardware, cloth, spirits, glass, etc.

Among the other trading centres are Mombasa,[1] Malinda Kilwa or Quiloa, Bagamoyo, and the island of Pemba (cultivation of rice).

3. In the **Somali Lands**, which are, however, not very accessible to European trade, *Berbera*[2] and *Harrar* are the principal markets. The foreign trade is carried on by Indian, Persian, and Arab merchants.

To the west of Somali Land lie the **Galla Lands**, now to a great extent united under the supremacy of Abyssinia.

THE CONGO STATE.

The Congo State, in the heart of Africa, was founded at the Congo Conference in 1885. The exact boundaries are not yet accurately determined, but, broadly speaking, it embraces the basin of the Congo, with an area of 1,000,000 square miles and a population of 25,000,000 to 40,000,000.[3] It extends to Lake Tanganyika on the east, while on the west it is continued by a narrow strip on the left bank of the Congo to the sea, on which it has a coast-line of 23 miles.

[1] Cf. foot-note on p. 133.—TR.

[2] Occupied by Great Britain in 1884.—TR.

[3] Stanley's estimate.

The sovereign of the Congo State is the *King of the Belgians*, who has distinguished himself as a liberal promoter of the exploration of the Congo basin, and of Central Africa generally. The greater part of this kingdom of the future is still occupied by unexplored forests, so that its interior organization must still long remain in abeyance.

Various plans have been suggested for the exploitation of this valuable and well-peopled region, but all are confronted by the difficulties mentioned at p. 571. In all probability the greater part of the occupied country will be found adapted only for plantations. *Trade* with the Congo State is to be free to all nations; in fact, one of the chief reasons for its foundation was a desire to preserve it from becoming an apple of discord among the maritime nations, and to conduct it more rapidly to the blessings of civilization.

Amid all doubts and fears one thing stands beyond dispute. The Congo must become the highway and the support for the great work of cultivating Central Africa; it plays in the Dark Continent the part that is played in North America by the Mississippi, and in South America by the Amazon. Already more than 50 stations have sprung up on this river, the course of which was utterly unknown ten years ago, and a more or less regular communication is maintained by about a dozen steamers.

The most serious obstacle is met with in the lower course of the river, where it descends from the plateau of its middle course to the coast-plain, in a series of mighty cataracts. This impassable section, nearly 200 miles in length, between Vivi (120 miles from the sea), to which small sea-going ships may ascend, and Stanley Pool, a lake-like expansion of the river above the falls, 340 miles from the sea, is to be cut off by means of a railway, on the point of being constructed. At present the expensive method of conveying goods on the backs of porters has to be adopted. The Congo, from Stanley Pool to the Stanley Falls, a distance of more than 1000 miles, is navigable for steamers.

The principal seaport of this territory is at present *Banana*, which has communication with Great Britain and Hamburg.

ABYSSINIA.

Habesh or Abyssinia, embracing an area of 161,000 square miles, with a population of 3,000,000, is a mountainous country, rising in three terraces, and with summits reaching the height of 14,750 ft. above the sea-level, bordered on the east by the hot coast-plain of Samhara.

Habesh is very well watered. The chief rivers are the *Bahr-el-Azrek*, or Blue Nile, which flows through Lake Zana, and the *Atbara*, with its tributary the *Tacazze*. Both are subject to inundations by the tropical rains.

The inhabitants of the country belong to several races. The Abyssinians proper, who profess Christianity, are believed to be of Semitic race, and to have originally come from Arabia. There are also large numbers of Gallas, of Hamitic race, and partly Mahometans or heathens. The country is at present under one king, who has placed himself under the protection of Italy.

Gondar and *Adowa* are the chief towns and trading centres.

Abyssinia carries on trade with the Nile Valley and Massowah, on the Red Sea. The chief *Exports* are *coffee*, honey, *ivory*, *slaves*, skins, *pearls*, *gums*, drugs, etc.; the chief *Imports* are European and Oriental cloth, hardware, weapons, etc.

The only current coin is the Austrian Maria-Theresa dollar.

ISLANDS OF AFRICA.

Most of the African islands are occupied and colonized by Europeans, and have been mentioned in connection with their various possessors. One island that still maintains its independence, so far as concerns internal affairs, is:—

Madagascar, one of the largest islands in the world, has an area of 621,000 square miles, with a mixed Malay and negro population of 3,500,000. It is separated from the mainland by the Strait of Mozambique. Almost the entire island is covered with mountains and plateaux, while the coast-line is advantageously irregular. The climate of the coasts is oppressively hot, and the Malagasy fever is so deadly to Europeans that all attempts at colonization have hitherto failed. The plateaux are said on the other hand to be healthy; the loftiest summits are covered with snow in winter.

In respect of its flora, Madagascar forms a little continent by itself. The island is peculiarly rich in valuable timber, resinous plants, cotton, southern fruits, pepper, coffee, etc.; in cattle, sheep, horses, and brilliantly coloured birds; as well as in minerals. Agriculture, though everywhere carried on, is still in a primitive condition. The native manufactures, chiefly in the capital *Antananarivo* (70,000 to 80,000 inhab.), also deserve mention.

The island is under the rule of a *queen*.

Tamatave (3000 inhab.), on the east coast, is the chief trading town, and has some European inhabitants. The foreign trade is almost exclusively in the hands of the British and French. The attempt of the latter to establish themselves firmly on the island has already been mentioned (p. 350). The chief *Exports* are hides, cattle, timber, coffee, indigo, caoutchouc, resin, cotton, etc.; the chief *Imports* are spirits and some European manufactures. The total value of the trade is estimated at only £1,200,000.

In the south, between Australia and Africa, are scattered a number of small islands, which supply passing ships with fresh provisions, and serve as stations for the whaling-vessels. Among these are *St. Paul's*, *Amsterdam Island*, *Kerguelen Island*, the *Crozet Islands*, *Prince Edward Island*, etc.

OCEANIA.[1]

HAWAII OR SANDWICH ISLANDS.

This well-watered and fertile archipelago, consisting of 11 volcanic islands, embraces an area of 6650 square miles, with 80,000 inhabitants, of whom 17,000 are whites, 4500 half-breeds, and 1800 Chinese. The aborigines (Kanakas), who already stood upon a higher level than the other South Sea islanders when Cook discovered the group (1778), are fast dying out; barely 40,000 now remain.

English is universally spoken in addition to the native dialects.

The *Climate*, though warm (64·5° to 86° F.) in proportion to the latitude (19° to 23° N. lat.), is not unhealthy; and among the mountains, which in some cases reach the height of upwards of 13,500 ft. (Mauna Loa 13,759 ft., Mauna Kea 13,785 ft.), it is even mild.

The importance of these islands consists more in their geographical position than in their productions, which include arrow-root, *Sugar*, coffee, rice, oil, cotton, animal produce, and timber. The course of ships from California to Japan and Australia lies past the Sandwich Islands, which are also the starting-point for expeditions to Behring's Straits and the South Sea. The steamers of the Pacific Mail Steamship Co. touch regularly at Honolulu on their voyages between San Francisco, Auckland, and Sydney.

It cannot be wondered at that all maritime nations have endeavoured to effect a firm footing on this important group of islands, ever since the discovery of gold in California roused the Pacific Ocean from its slumbers of a thousand years to play a great part in the traffic of the world. The Americans (about 2300) have far outdistanced all competitors, and exercise the predominant influence. Free trade has existed between Hawaii and the United States since 1876, the officially recognized currency is the dollar, and the formal occupation of the island by the Union is only a question of time.

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[1] The islands of Oceania, or the *South Sea Islands*, are commonly divided into three chief groups. 1. **Melanesia**, including (besides New Guinea and the Papuan Islands), the Admiralty, Bismarck, and Solomon Groups, New Hebrides, Santa Cruz Islands, New Caledonia, Loyalty Islands, and Fiji Islands. 2. **Polynesia**, embracing the Tonga and Samoa Islands, Savage Island, the Union, Ellice, Hervey, and Society (Tahiti) groups, Tuamotu and Tubai Archipelagos, Pitcairn Island, Easter Island, Marquesas, Manhiki, America, and Phœnix groups, and the Sandwich Islands. 3. **Mikronesia**, embracing the Marshall Archipelago, Gilbert or Kingsmill Islands, the Caroline, Pelew, and the Mariannes or Ladrone Islands.—TR.

The entire *Foreign Trade* centres at *Honolulu* (95%), on the island of *Oahu*, the capital and principal seaport (17,000 inhab.), which abounds in European and Chinese depots. In 1891 the islands were visited by 310 trading-ships (200 American), with a total burden of 284,000 tons.

In the same year the foreign trade represented a turn-over of £3,500,000 (export £2,000,000), of which the greatest proportion was carried on with America *viâ* San Francisco. Great Britain stands second to the United States in the Sandwich Islands trade.

The activity of British and German merchants has drawn some of the smaller independent islands of the Pacific into the domain of international commerce. The most important of these are

THE SAMOA AND TONGA ISLANDS.

Each of these groups, which lie in the tropics, to the east of the Fiji Islands, forms an independent state.[1] The Samoa group has an area of 1080 square miles and a population of 37,000, of whom 2500 are foreigners (400 whites). The Tonga group is 390 square miles in area and has 24,000 inhabitants. The natives belong to the Polynesian stock and are Christians. The Samoa or Navigator's Islands are of volcanic origin; the Tonga or Friendly Islands are coral islands. The climate is very pleasant and equable, and both groups are very fertile. Copra, cotton, and mother-of-pearl are the chief exports. The greater part of the trade is carried on by

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[1] Comp. foot-note p. 147.—Tr.

Hamburg merchants, and centres at *Apia*, upon *Upola*, in the Samoan group.

The **Marshall Archipelago**, situated to the east of the Caroline Islands and to the north of the equator, also carries on trade with Germany, under whose protection it lies. The chief town is *Jaluit*. The *Gilbert Islands* have recently been annexed by Great Britain.

APPENDICES.

The following Appendices are not offered as complete or exhaustive lists. They are intended merely to assist the student or merchant in forming an intelligent idea of the means of communication at the disposal of international commerce; while at the same time they give interesting indications of the distribution of the volume of trade and the direction of its main currents. Appendix I. should, of course, be used in connection with the map. Appendix II. shows where accurate information may be obtained respecting the principal railway lines of the world.

APPENDIX I.

SOME OF THE PRINCIPAL STEAM-SHIP COMPANIES OF THE WORLD.

AUSTRIA-HUNGARY.

Adriatic Ports:

From Trieste and Fiume.—Oesterreich-Ungarischer Lloyd (Austria-Hungarian Lloyd).

China.

From Trieste.—Oesterreich-Ungarischer Lloyd.

Greece and the Levant:

From Trieste.—Oesterreich-Ungarischer Lloyd.

India:

From Trieste.—Oesterreich-Ungarischer Lloyd.

The "Adria" Hungarian Steam Navigation Co., plying from Fiume, is an important line of freight steamers.

BELGIUM.

North America:

From Antwerp.—Société Anonyme Belge-Américaine ("Red Star Line"); Engels & Co. (freight steamers).

BRAZIL.

Brazilian Ports:

From Rio de Janeiro.—Companhia Braziliera de Navegaçaõ a Vapor.

BRITISH BURMAH.

Irrawaddy Ports:

From Rangoon.—Irrawaddy Flotilla Co.

CHILI.

South America (West Coast):

From Valparaiso.—Compania Sud-Americana de Vapores.

CHINA.

Chinese Ports:

From Shanghai.—China Merchants' Steam Navigation Co.

DENMARK.

Danish Ports:

From Copenhagen.—Forenede Dampskibs Selskab det (freight steamers).

FRANCE.

Algeria and North Africa:

From Marseilles.—Messageries Maritimes de France; Compagnie Générale Transatlantique.

America, Central:

From St. Nazaire, Havre, or Bordeaux.—Compagnie Générale Transatlantique.

America, North:

From Havre. — Compagnie Générale Transatlantique; Compagnie d'Armements Maritimes (sailing vessels; to Mexico).

America, South:

From Bordeaux.—Messageries Maritimes.

„ St. Nazaire.—Compagnie Générale Transatlantique.

„ Marseilles.—Société Générale de Transports Maritimes à Vapeur; Compagnie Marseillaise de Navigation à Vapeur.

„ Havre.—Compagnie Française de Navigation à Vapeur; Société Anonyme; Compagnie d'Armements Maritimes (sailing vessels).

Australia and New Caledonia:

From Marseilles.—Messageries Maritimes.

Black Sea Ports:

From Marseilles.—Messageries Maritimes.

China and Japan:

From Marseilles.—Messageries Maritimes.

Greece and the Levant:

From Marseilles.—Messageries Maritimes; Compagnie Marseillaise de Navigation à Vapeur; Compagnie Fraissinet.

India, Java, and Indo-China:

From Marseilles.—Messageries Maritimes.

Italian Ports:

From Marseilles. — Compagnie Valéry; Compagnie Marseillaise de Navigation à Vapeur; Messageries Maritimes; Compagnie Générale Transatlantique.

Mauritius, Réunion, etc.:
From Marseilles.—Messageries Maritimes.

Morocco and the Canary Islands:
From Marseilles.—Compagnie de Navigation Marocaine (sailing vessels).

North Sea and Baltic Sea:
From Dunkirk.—Compagnie des Bateaux à Vapeur à Hélice.

Senegambia:
From Bordeaux.—Messageries Maritimes.

Spanish Ports:
From Marseilles.—Compagnie Marseillaise de Navigation à Vapeur; Compagnie Générale Transatlantique.

West Indies:
From St. Nazaire, Havre, or Bordeaux.—Compagnie Générale Transatlantique.

GERMANY.

Aden and Singapore:
From Hamburg.—Sloman & Co.

Africa, West:
From Hamburg.—Wörmann's Deutsche Dampfschiffahrt.

America, Central:
From Hamburg.—Hamburg-Amerikanische Paketfahrt-Actiengesellschaft.

America, North:
From Hamburg.—Hamburg-Amerikanische Paketfahrt-Actiengesellschaft.
„ Bremen.—Norddeutscher Lloyd (North German Lloyd).

America, South:
From Hamburg.—Hamburg-Sudamerikanische Dampfschiffahrt Gesellschaft; Kosmos Gesellschaft.
„ Bremen.—Norddeutscher Lloyd.

Australia:
From Hamburg.—Sloman & Co.
„ Bremen.—Norddeutscher Lloyd.

China and Japan:
From Bremen.—Norddeutscher Lloyd.
„ Hamburg.—Sloman & Co. (Shanghai).

The Deutsche Dampfschiffs Rhederei, plying from Hamburg, is an important trading line.

GREAT BRITAIN.

Adriatic Ports:
From London.—Bailey & Leetham's Line.

Africa (West and South-west Coast):

From Liverpool.—The British and African Steam Navigation Co.; African Steamship Co.
„ London.—The "Castle" Line.
„ Southampton.—The "Union" Line; Royal Mail Steam Packet Co.
„ Glasgow.—The "Clan" Line.

America (United States):

From Liverpool.—The "Cunard," "White Star," "Guion," "American," and "Anchor" Lines.
„ London.—The "National" and "Beaver" Lines.
„ Glasgow.—The "Anchor" and "State" Lines.
„ Hull.—The "Wilson" Line.

America, South:

See *South America* and *Brazil.*

Australia:

From London.—The Peninsular and Oriental Steam Navigation Co.; "Orient" Line.
„ Glasgow.—The "Loch" Line.

Brazil and East Coast of South America:

From Liverpool.—The Pacific Steam Navigation Co.; Liverpool and Northern Brazil Co.; Liverpool, Brazil, and River Plate Steamers.
„ London.—The Pacific Steam Navigation Co.; Liverpool and Northern Brazil Co.; Liverpool, Brazil, and River Plate Steamers.

Canada:

From Liverpool.—The "Dominion" and "Allan" Lines.
„ Glasgow.—The "Allan" and "Donaldson" Lines.

China and Japan:

From London.—The Peninsular and Oriental Steam Navigation Co.
„ Southampton.—The Royal Mail Steam Packet Co.

Constantinople:

From Liverpool.—The "Cunard" Line; Papayanni & Co.; Moss Steamship Co.
„ Hull.—The "Wilson" Line.

Cuba:

From Glasgow.—The "British" Line.

Egypt:

From Liverpool.—The Moss Steamship Co.; Papayanni S.S. Co.
„ Hull.—The "Wilson" Line.

India:

From London.—The Peninsular and Oriental Steam Navigation Co.; the British India Steam Navigation Co.
„ Liverpool.—The "Star" Line.
„ Glasgow.—The "Anchor," "Mac Iver," "City," and "Clan" Lines.
„ Hull.—The "Wilson" Line.

Java:

From London.—The British India Steam Navigation Co.

Mediterranean Ports:

From London.—The "Orient" Line.
„ Liverpool.—The "Moss," "Papayanni," and "Cunard" Lines.
„ Hull.—The "Wilson" Line.

New Zealand and Tasmania:

From London.—The Shaw, Savill, & Albion Co.; New Zealand Shipping Co.

Queensland:

From London.—The "Orient" Line; British India Steam Navigation Co.
„ Glasgow.—The "Shire" Line.

South America:

From Southampton.—The Royal Mail Steam Packet Co.
„ Glasgow.—The "Gulf" Line.

Spain:

From London.—The "Halls" Line; General Steam Navigation Co.
„ Liverpool.—Booth Steamship Co.; Liverpool and Maranham S.S. Co.; Pacific Line Royal Mail Steamers; Papayanni Steamship Co.

West Indies and Pacific:

From Southampton.—The Royal Mail Steam Packet Co.
„ Liverpool.—The West India and Pacific Steamship Co.

Zanzibar:

From London.—The British India Steam Navigation Co.

GREECE.

Greek Ports:

From the Piræus and Corinth.—Compagnie Hellénique (Hellenike Atmoploïke Etairia); Panhellenic Co. (Panellénios Atmoploia); Goudi Steamboat Co.

HOLLAND.

Dutch Indies:

From Amsterdam.—Stoomboot Maatschappij Nederland; Netherlands India Steam Navigation Co.
„ Rotterdam.—Rotterdam Lloyd.

ITALY.

America (United States):
From Naples.—Navigazione Generale Italiana.

Assab and Massowah:
From Genoa.—Navigazione Generale Italiana.

Greece, Levant, and Black Sea:
From Genoa.—Navigazione Generale Italiana.

India, Java, etc.:
From Genoa.—Navigazione Generale Italiana.

Italian Ports:
From Genoa.—Navigazione Generale Italiana.

North Africa and Malta:
From Genoa.—Navigazione Generale Italiana.

South America (River Plate):
From Genoa.—"La Veloce" Navigazione Italiana.

JAPAN.

America (San Francisco):
From Yokohama.—Nippon Yusen Kaisha (Japan Mail Steamship Co.); Mitsu Bishi Shokuwai Co.

Chinese Ports:
From Yokohama.—Mitsu Bishi Shokuwai Co.

NEW ZEALAND.

Australia:
From Dunedin.—Union Steamship Co. of New Zealand.

Great Britain (London):
From Dunedin.—Union Steamship Co. of New Zealand.

NORWAY.

Norwegian Ports:
From Bergen.—Bergen and Nordenfjeldsk Steamship Co.

PORTUGAI

The Azores:
From Lisbon.—Empreza Nacional da Navegaçaõ a Vapor.

RUSSIA.

Black Sea and Levant:
From Odessa.—Russian Steamship and Commercial Co.

Caspian Ports:
From Astrakhan.—Kavkas i Mercuri.

North Europe:
From St. Petersburg.—Russian Steam Navigation Trading Co.

SPAIN.

Cuba and Porto Rico:

From Cadiz and Santander.—La Compania Transatlantica.

Philippine Islands:

From Liverpool, viâ Spanish Ports.—La Compania Transatlantica. The Compania de Navigacione "La Flecha," the Linèa de Vapores Serra, and the Compania de Arrotigui, though flying the Spanish flag, are really British-owned companies, plying from Liverpool viâ Spanish ports to Spanish colonies.

TASMANIA.

Australia:

From Hobart.—Tasmanian Steam Navigation Co.

TURKEY AND EGYPT.

Red Sea Ports:

From Alexandria.—Khedivieh Mail Steamship Co.

UNITED STATES OF NORTH AMERICA.

Central America;

From San Francisco.—Pacific Mail Steamship Co.

West Indies:

From New York.—Atlas Steamship Co.

Australia and Sandwich Islands:

From San Francisco.—Pacific Mail Steamship Co.

China and Japan:

From San Francisco.—Pacific Mail Steamship Co.

VICTORIA.

Australian Ports:

From Melbourne.—Huddard, Parker & Co.; W. H. Smith & Co.

APPENDIX II.

RAILWAY GUIDES AND TIME-TABLES FOR THE PRINCIPAL COUNTRIES OF THE WORLD.

Continent of Europe:

Bradshaw's Continental Railway Steam Transit and General Guide for Travellers through Europe. W. J. Adams & Sons, Fleet Street, London.

Livret-Chaix Continental.—Guide Officiel des Voyageurs sur tous les Chemins de fer de l'Europe et les principaux Paquebots de la Méditerranée et de l'Océan. Paris.

Argentine Republic:

Guia Mensual de Kidd de los Ferrocarriles, Vapores, Tramways, Mensajerias y Avisador General. J. H. Kidd y Ca., Calle San Martin, Buenos Aires.

Australia and New Zealand.

Bradshaw's Guide to Victoria. Stillwell & Co., Collins Street, Melbourne.

The Railway Guide to New South Wales. Chas. Potter, Government Printer, Sydney.

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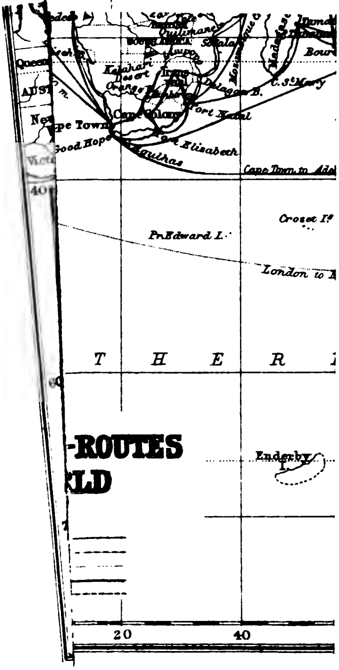

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INDEX OF PLACES.

The names of towns merely referred to in connection with particular manufactures or industries are not included in this index.

Abyssinia, 579.
Acapulco, 537, 541.
Adelaide, 136, 140, 141.
Aden, 124.
Admiralty Islands, 390.
Afghanistan, 495, 497.
Africa, 566.
— British East, 133.
— — South, 124.
— — West, 132.
— Central, 569.
— German East, 259.
— — West, 259.
— French, 344.
— Portuguese, 382.
— Spanish, 371.
— Turkish, 410, 425.
Agué, 349.
Ajmere, 110.
Ajuda, 383.
Akyab, 119.
Aland Islands, 445.
Alaska, 503, 533.
Albania, 413.
Alexandria, 430.
Alexandra Land, 136.
Algeria, 344.
Algiers, 345.
Almaden, 365.
Alps, 386.
— Austrian, 268.
Alsace-Lorraine, 255.
Amazon, the, 546, 547.
Amboina Group, 178.
America, 503.
— British North, 147.
— Central, 542.
— Dutch, 181.
— French, 354.
— Latin, 534.
— South, 545.
— United States of North, 503.
Amirante Isles, 131.
Amsterdam, 170.
Amsterdam Island, 580.
Anatolia, 419.
Andaman Islands, 110.
Angola, 383.
Angra Pequena, 259.
Anhalt, 234.
Anjuan Island, 350.
Annam, 351.
Annobom Island, 372.
Antigua, 156.
Antilles, Dutch, 181, 157.
— Great and Little, 157.
Antwerp, 188.
Apennines, 386.
Apsheron, Peninsula of, 465.
Arabia, Independent, 501.
— Turkish, 424.
Arafali, 398.
Aragon, 361.
Argentine Republic, 553.
Arkhangel, 459.
Armenia, 420.
Arū Islands, 178.
Ascension, 132.
Ashantee, 573.
Asia Minor, 419.
Asia, 476.
— British, 105.
— Dutch, 174.
— French, 350.
— Portuguese, 383.
— Russia in, 462.
— Russian Central Asia, 473.
— Spanish, 372.
— Turkey in, 417.
Assab, 398.
Assam, 110.
Assinie, 349.
Astrakhan, 445, 460.
Atlantic Slope, 506.
Augsburg, 245, 248.
Austral Archipelago, 353.
Australasia, 133. (See also *Oceania.*)
Australia, 133.
— South, 136, 140.
— Western, 136.
Austria, 259, 262, 273.
Austria-Hungary, 259.
Austrian Alps, 268.
Azores, 382.

Baden, 252.
Bagdad, 423.
Bagirmi, 574.
Bahama Islands, 156.
Bahia, 547, 551.
Baku, 466.
Balearic Islands, 361, 370.
Baltimore, 530.
Baltistan, 111.
Baluchistan, 495, 498.
Banca, 178.
Banda Islands, 178.
Barbadoes, 156.
Barca, 410, 432.
Barcelona, 370.
Baroda, 110.
Basque Provinces, 361.
Basra, 423.
Bassam, Grand, 349.
Bassora, 423.
Basutoland, 126.
Batavia, 177.
Batûm, 466.
Bavaria, 241.
Bavarian Palatinate, 241.
Bay Islands, 543.
Bechuanaland, British, 126.
— Protectorate of, 126.
Beirût, 423.
Belfast, 89, 90, 100.
Belgium, 181.
Belize, 158.
Bengal, 109.
Berar, 110.
Berbera, 577.
Berbice, 159.
Bergen, 205.
Bergstrasse, the (Hesse), 233.
Berlin, 227.
Bermudas, 155.
Billiton, 178.
Birmingham, 91, *seq.*
Bismarck Archipelago, 259
Bissagos Archipelago, 382.
Bogota, 562.
Bohemia, 274.
Bokhara, 473, 474.
Bolivia, 558, 559.
Bombay, 110, 118.
Bonin Islands, 489.
Bordeaux, 339, 321.
Borneo, 178.
— North, 123.
Bornu, 574.
Bosnia, 301.
Bradford, 100.
Brazil, 545.
Bremen, 240.
Bremerhaven, 240.
Breslau, 227.
Britain, Great, 70.
British Bechuanaland, 126.
— Burma, 110, 119.
— Columbia, 148.
— Empire, the, 69.
— Guiana, 159.
— Honduras, 158.
— India, 106.
— Kaffraria, 126.
— New Guinea, 147.
— West Indies, 156.
Brittany, 315.
Brunai, 123.
Brunswick, 234.

Buen Ayre, 181.
Buenos Ayres, 553, 555.
Bukowina, 275.
Bulgaria, 403.
Burma, British, 110, 119.
Bushire, 497, 500.

Cabinda, 303.
Cadiz, 370.
Caicos, 156.
Cairo, 430, 427.
Calcutta, 109, 115, 118.
Callao, 559, 561.
Calvinia, 12[illegible].
Cambodia, 351.
Cameroon, 259.
Campine, the (Belgium), 182.
Canada, 147.
Canary Islands, 356, 371.
Canton, 484.
Cape Breton Island, 148.
Cape Colony, 124, 125.
Cape Town, 125, 128, 129.
Cape Verde Islands, 382.
Cardiff, 100.
Carical, 350.
Carinthia, 274.
Carniola, 274.
Caroline Islands, 374.
Carpathians, 270.
Cashmere, 111.
Caspian Sea, 466, 500.
Castile, 360, 358.
Caucasia, 463.
Cayenne, 355.
Cebu, 372.
Celebes, 178.
Central Africa, 569.
— America, 542.
— Asia, Russian, 473.
— Provinces, 109.
Cerigo, 435.
Cette, 339.
Ceuta, 371.
Ceylon, 121.
Chandernagore, 350.
Channel Islands, 79, 70.
Charleston, 530.
Chatham Islands, 14[illegible].
Chemnitz, 230.
Cherna Gora, 408.
Chicago, 526, 527, 531.
Chili, 556.
Chiloë, 556.
China Proper, 476.
Chinese Empire, 476.
Christiania, 204.
Christianshaab, 195.
Cincinnati, 527.
Ciscaucasia, 464.
Cisleithania, 259.
Coastlands, the (Austria), 274.
Cochin-China, 351.
Colombia, 561.
Colombo, 121.
Colonies, British, 104.
— Danish, 194.
Colonies, Dutch, 173.
— French, 344.
— German, 259.
— Italian, 398.
— Portuguese, 381.
— Spanish, 371, 356.
Columbia (Canada), 152.
Columbia (U.S.A.), 503.
Comino, 105.
Comoro Islands, 349.
Congo, 575.
Congo State, 575, 570, 577.
Constantine, 346.
Constantinople, 413.
Coorg, 110.
Cootenoo, 349.
Copenhagen, 191, 193.
Corea, 487.
Corfu, 435.
Cork, 90.
Coromandel Coast, 107.
Cosseir, 431.
Costa Rica, 543.
Courland, 444.
Cracow, 275.
Crete, 413.
Croatia, 276.
Cronstadt, 444, 459.
Crozet Islands, 580.
Cuba, 374.
Curaçoa, 181.
Cyprus, 105.
Cythera, 435.

Dahomey, 573.
Dalmatia, 274.
Daman, 383.
Damaraland, 259.
Danish Colonies, 194.
— West Indies, 196.
Danube, 264, 216, 244, 253, 294, 400.
Danubian States, 399.
Darfur, 574.
Deccan, the, 107.
Demerara, 159.
Denmark, 190.
Desima, 489, 492.
Désirade, La, 354.
Diarbekir, 423, 421.
Diego Garcia Island, 131.
Diu, 383.
Dobrudja, 399, 401.
Dolomites, the, 268.
Dominica, 156.
Dondo, 383.
Drontheim, 205.
Dublin, 90, 94, 100.
Dundee, 90, 91.
Dunedin, 146.
Dunkirk, 338, 321.
Dutch Antilles, 181, 157.
— Colonies, 173.
— East Indies, 173.
— Guiana, 181.

Eastern Roumelia, 404, 403, 413.
Eastern Turkestan, 487.
East Indies, 106.
— — Dutch, 173.
Ecuador, 558, 559.
Edinburgh, 94, 95.
Egypt, 410, 425.
Elbe, the, 238, 216, 265.
El Jezireh, 420.
Emilia, 389.
Emperstrasse, the (Westphalia), 224.
England, 69, 77, 73.
Erzerûm, 423.
Española, 564.
Essequibo, 159.
Esthonia, 444.
Etchmiadzin, 464.
Europe, 69.

Falkland Islands, 159.
Faroe Islands, 194.
Fernando Po, 372.
Ferro, 371.
Fez, 566.
Fezzan, 432.
Fiji Islands, 146, 259.
Finland, 438, 441, 445, 457, 462.
Fiume, 297, 298.
Foochow, 484.
Formosa, 479.
France, 315.
Frankfurt-am-Main, 227.
Fray Bentos, 553.
Frederikshaab, 195.
French Colonies, 344.
— Guiana, 355.
Friendly Islands, 582, 147.
Funchal, 382.

Gaboon, 349.
Gala Lands, 577.
Galapagos Islands, 559.
Galicia, 275.
Galveston, 530.
Gambia, 132.
Ganges, 108, 116.
Genoa, 397.
German Colonies, 259.
German Customs Union, 258.
Germany, 209.
Gibraltar, 104.
Gilbert Islands, 582
Glasgow, 89, *seq*.
Goa, 383.
Godhavn, 195.
Gold Coast, 132, 349.
Görz, 274.
Gothenburg, 208.
Gozo, 105.
Gradiska, 274.
Grand Bassam, 349.
— Comoro, 350.
— Popo, 349.
Great Britain, 70.
— Namaqualand, 126, 259.
— Russia, 444.
Greece, 432.

Greenland, 195.
Grenada, 156.
Griqualand East, 126.
— West, 126.
Guadeloupe, 354.
Guatemala, 543.
Guayaquil, 559, 561.
Guiana, British, 159.
— Dutch, 181.
— French, 355.
Guinea, New, 146.
— Portuguese, 382.
— Spanish, 372.
— Upper, 573.
Guiné, Portugueza, 382.
Gwalior, 110.

Habesh, 579.
Hainan, 479.
Hakodate, 489, 492.
Hamburg, 238.
Hamilton, 155.
Hammerfest, 205.
Hangkow, 484.
Hanse Towns, 237.
Hardvar, 117.
Harrar, 577.
Haussa States, 574
Havanna, 376.
Havre, Le, 338, 321.
Hawaii, 581.
Hayti, 564.
Hejaz, 424.
Heligoland, 213.
Herat, 475, 497, 500.
Herzegovina, 301.
Hesse, 233.
Himalayas, 107.
Hiogo, 489, 492.
Hobart, 144.
Hohenzollern, 212.
Holland, 160.
Honduras, 543.
— British, 158.
Hongkong, 123.
Honolulu, 582.
Hudson's BayTerritory,149.
Hull, 100.
Hungary, 260, 263, 276.
Hyderabad, 110.

Iceland, 194.
Imbros, 413.
Independent Arabia, 501.
— Kaffraria, 126.
India, British, 106.
Indian Territory, 503.
Indo-China, 351.
Indore, 110.
Ingermanland, 444.
Ionian Islands, 435.
Irak Arabi, 420.
Iran, 495.
Irbit, 459.
Ireland, 69, 70, 81, 73.
Ireland Island, 156.
Irkutsk, 472, 473.
Ispahan, 497, 499.

Isthmus of Panama, 562.
— of Suez, 429.
Italian Colonies, 398.
Italy, 384.

Jamaica, 156.
Japan, 488.
Java, 174.
Johanna Island, 350.
Juan Fernandez, 556.
Julianshaab, 195.
Jungaria, 487.

Kabul, 497.
Kaffirland, 576.
Kaffraria, British, 126
— Independent, 126.
Kafiristan, 495.
Kaiser Wilhelm's Land, 259.
Kalahari Desert, 126.
Kano, 574.
Kara Dagh, 408.
Karoo, the, 125.
Karst, 269, 413, 434.
Kashmir, 111.
Kazan, 445.
Keeling Islands, 124
Kei Islands, 178.
Kelat, 498.
Kerguelen Island, 580.
Kharkov, 458.
Khiva, 473.
Kiakhta, 473.
Kiev, 444, 458.
Kioto, 489.
Kirghiz Steppes, 474.
Kiushiu, 489.
Kobe, 489.
Kowloon Bay, 123.
Kurdistan, 420.
Kurea-Murea Islands, 124.
Kurile Islands, 489.
Kurrachee, 119.
Küstenland, 274.

Labrador, 149.
Labuan, 123.
Laccadive Islands, 111.
Ladakh, 111.
La Désirade Island, 354.
Lagos, 132.
Landes, the, 319.
Lanzarote, 371.
Latin America, 534.
La Valetta, 105.
Leeds, 90, *seq.*
Leeward Islands, 156.
Leghorn, 397.
Leipsic, 231.
Levant, 419.
Leyte, 372.
Lhassa, 486.
Liberia, 573.
Libyan Desert, 568.
Lipari Islands, 387, 390.
Lippe, 235.
Lisbon, 379.

Lithuania, 445.
Little Bokhara, 487.
— Popo, 259.
— Russia, 444.
Liverpool, 89, *seq.* 100.
Livonia, 444.
Loango, 575.
Lodomeria, 275.
Lofoden Islands, 201.
Lombardy, 389.
London, 90, *seq.* 99.
Loochoo Islands, 489.
Low Archipelago, 353.
Lower Austria, 273.
Lower Niger, 574.
Loyalty Islands, 352.
Lübeck, 241.
Luxemburg, 172.
Luzon, 372.
Lyachov Islands, 469.
Lyons, 320.

Macao, 383.
Macedonia, 413.
Madagascar, 350, 579.
Madeira Islands, 382.
Madras, 110, 119.
Madrid, 369.
Madura, 174.
Magdeburg, 227.
Mahè, 350.
Maimatchin, 486.
Mainz, 233.
Malabar Coast, 107.
Malacca, 121.
Malaga, 370.
Maldive Islands, 111.
Malmö, 208.
Malta, 105.
Malwa, 110.
Man, Isle of, 79.
Manchester, 89, *seq.*
Manchuria, 477, 485.
Mandalay, 119.
Mangareva Group, 353.
Manila, 372.
Manitoba, 148, 151.
Mannheim, 254.
Marañon. (See *Amazon.*)
Marianne Islands, 374.
Marie Galante, 354.
Marks, the, 389.
Marquesas Islands, 353.
Marseilles, 339, 322.
Marshall Archipelago, 582, 259.
Martinique, 354.
Masailand, 133.
Massowah, 399.
Matsmae, 489.
Mauritius, 131.
Mayotte, 350.
Mecklenburg-Schwerin,236.
Mecklenburg-Strelitz, 236.
Medina, 425.
Melanesia, 581.
Melbourne, 136,138,140,141.
Merv, 475.

Mesopotamia, 420.
Messina, 398.
Mexico, 536, 537.
Miako, 489.
Mikronesia, 581.
Milwaukee, 526.
Mindanao, 372.
Mindoro, 372.
Miquelon, 354.
Mississippi, 508.
Mobile, 530.
Moldavia, 399, 401.
Moluccas, 178.
Mombasa, 133, 577.
Mongolia, 485.
Montenegro, 408.
Monte Video, 553, 555.
Montreal, 148, 153, 154.
Montserrat, 156.
Moravia, 275.
Morocco, 566.
Moscow, 444, 453, 458.
Mosquito Coast, 543.
Mozambique, 383, 576.
Mühlhausen, 257.
Mysore, 110.

Nagasaki, 489, 492.
Namaqualand, 125.
— Great, 126, 259.
Nantes, 339, 321.
Naples, 389, 397.
Natal, 124, 126.
Navarre, 361.
Navigator Islands, 147, 582.
Negros, 372.
Nelson, 146.
Netherlands, 160.
Nevis, 156.
New Britain, 259.
— Brunswick, 148.
— Caledonia, 352.
Newcastle, 94, 100.
New England, 511.
Newfoundland, 149, 151.
New Granada, 561.
— Guinea, 146, 178, 259.
— Hebrides, 353.
— Ireland, 259.
— Orleans, 530.
— Siberia, 469.
— South Wales, 136, 140.
— York, 527, 529.
— Zealand, 144.
Nicaragua, 543.
Niger, Lower, 574.
— Upper, 348.
Nigritia, 573.
Niigata, 492.
Nile, the, 426.
Niphon, 489.
Nippon, 489.
Niue, 147.
Nizam's Dominions, 110.
Nizhni-Novgorod, 444, 458.
North America, 503.
— Borneo, 123.
Northern Territory, 136.
North-Western Provinces, 109.
North-West Territories, 149.
Norway, 196, 201.
Nossi-Bé Island, 350.
Nova Scotia, 148.
Novgorod, 444.
Nubia, 425.
Nuremberg, 247.

Obock, 350.
Oceania, 581.
— British, 146.
— French, 352.
— German, 259.
— Spanish, 374.
Odessa, 460.
Ogasawara Islands, 489.
Oldenburg, 235.
Oman, 501.
Ontario, 148, 151, 152.
Oran, 346.
Orange Free State, 576, 128.
Oruba, 181.
Ottawa, 148.
Oudh, 109.
Outposts, the (Dutch Indies), 177.
Ozaka, 489, 492.

Pacific Slope, 507.
Padang, 177.
Palawan, 372.
Palestine, 420.
Panama, 562.
Panay, 372.
Papal States, 389.
Paraguay, 553.
Paris, 340, 321.
Peking, 479.
Pelew Islands, 374.
Penang, 121.
Perim, 124.
Persia, 495, 497.
Peru, 558, 559.
Philadelphia, 530.
Philippine Islands, 372.
Pithyusae Islands, 361, 370.
Po, 387.
Podlachia, 445.
Podolia, 445.
Poland, 438, 445.
Polynesia, 581. (See *Oceania.*)
Pondichéry, 350.
Pondoland, 126.
Port Elizabeth, 129.
Porto Novo, 349.
— Rico, 374, 377.
— Seguro, 259.
Port Said, 431.
Portugal, 378.
Portuguese Colonies, 382.
— Guinea, 382.
Potteries, the, 93.
Présidios, the, 356, 371.
Prince Edward Island, 580.
Prince Edward's Island, 148.
Prince's Island, 383.
Principe, 383.
Prussia, 212.
Puerto Rico, 377.
Punjab, 110.
Punta Arenas, 556.
Pyrenees, 318, 358.

Quebec, 148, 152.
Queensland, 136, 138, 140.

Rangoon, 119.
Raratea, 353.
Réunion, 349.
Reuss-Greiz, 232.
Reuss-Schleiz-Lobenstein, 232.
Revilla-Gigedo Islands, 537.
Rhine, the, 162, 216, 244, 253, 307.
Rhodes, 420.
Rian, 178.
Riga, 460.
Rio de Janeiro, 547, 551.
Rio Tinto, 365.
Riukiu, 489.
Rodriguez Island, 131.
Rotterdam, 169.
Rotumah, 146.
Roumania, 399.
Roumelia, Eastern, 404, 403
Russia, 438.
— in Asia, 462.
— in Europe, 438.
Russian Central Asia, 473.

Saba, 181.
Saghalien, 469.
Sahara Desert, 568.
Sahel, 568.
Saigun, 352.
Saint Christopher, 156.
— Croix, 196.
— Eustache, 181.
— George Island, 156.
— Helena, 132.
— John Island, 196.
— John's (Cape Colony), 126.
— Louis (U.S.A.), 526.
— Lucia, 156.
— Marie de Madagascar, 350.
— Martin, 181.
— Paul's, 580.
— Petersburg, 444, 453, 459.
— Pierre, 354.
— Thomas Island, 196.
— Thomas's Island, 383.
— Thomé, 383.
— Vincent, 156.
Saloniki, 417.
Salzburg, 274.
Samar, 372.
Samarang, 177.
Samoa, 582, 147.
Samos, 420.
Samothrace, 413.
San Domingo, 564, 565.

Sandwich Islands, 581.
San Francisco, 530.
— Marino, 389.
— Salvador, 543.
Santander, 370.
Santiago, 556.
Sarawak, 123.
Sardinia, 389, 387.
Savage Island, 147.
Saxe-Altenburg, 232.
Saxe-Coburg-Gotha, 232.
Saxe-Meiningen-Hildburghausen, 232.
Saxe-Weimar-Eisenach, 232.
Saxony, 227.
Schaumburg-Lippe, 285.
Schmalkalden, 212.
Schwarzburg-Rudolstadt, 232.
Schwarzburg-Sondershausen, 232.
Schwechat, 291.
Scilly Islands, 79, 70.
Scotland, 69, 79, 73, *seq.*
Senegambia, 348, 382, 573.
Seoul, 488.
Servia, 406.
Seychelles, 131.
Shanghai, 483.
Sheffield, 92, 93, 100.
Shikoku, 489.
Siam, 493.
Siberia, 467.
Sicily, 387, 389, 390.
Siebenbürgen, 276.
Sierra Leone, 132.
Sikok, 489.
Silesia, 275.
Singapore, 122.
Slavonia, 276.
Smyrna, 423.
Society Islands, 353.
Socoto, 574.
Socotra, 131.
Soerabaya, 177.
Sofala Coast, 576.
Solomon Islands, 259.
Somali Lands, 577.
Somerset Island, 156.
Somer's Islands, 155.
South African Colonies, 124.
— — Republic, 576.
— — Triangle, 575.
Southampton, 100.
South America, 545.
— Australia, 136, 140.
— Sea Islands, 581.
Spain, 356.
Spanish Colonies, 356, 371.
Spice Islands, 178.
Stamboul, 413.
Stewart Island (N.Z.), 145.
Stockholm, 208.
Straits Settlements, 121.
Strassburg, 257.
Stuttgart, 250, 251, 252.
Styria, 274.
Suakim, 431.
Sûdan, 425, 573.
Sudetic System, 271.
Suez, 429, 431.
Sulu Islands, 372.
Sumatra, 177.
Sunda Islands, 177.
Sunderbunds, the, 108.
Surinam, 181.
Swahili Coast, 577.
Swatow, 484.
Sweden, 196, 201, 205.
Switzerland, 303.
Sydney, 136, *seq.*
Syria, 420.

Tabreez, 497, 499, 500.
Taganrog, 460.
Tahiti, 353.
Taiwan, 479.
Tamatave, 580.
Tampico, 537, 541.
Tangier, 567.
Tasmania, 144.
Teheran, 497, 500.
Tembuland, 126.
Teneriffe, 371.
Thasos, 413.
Thibet, 486.
Thrace, 413.
Throndhjem, 205.
Thuringian States, 232.
Tibet, 486.
Tientsin, 484.
Tigre, 543.
Timbuctoo, 348, 573.
Timor, 383.
Tobago, 156.
Togoland, 259.
Tokio, 489, 492.
Tonga, 147, 582.
Tonquin, 351.
Tosa, 489.
Transbaikalia, 469.
Transcaspian District, 467.
Transcaucasia, 464.
Transkeian Territories, 126.
Transleithania, 259.
Transvaal Republic, 576, 128.
Transylvania, 276.
Trapezunt, 422.
Travancore, 110.
Treaty Ports, 483.
Trebizond, 422.
Trieste, 297, 298.
Trinidad, 156.
Tripoli, 410, 432.
Tristan d'Acunha, 132.
Tromsö, 205.
Tuamotu Islands, 353.
Tuat, 566, 568.
Tubuai, 353.
Tunis, 344, 346.
Turkestan, 474.
Turkey, 409.
— in Africa, 425, 410.
Turkey in Asia, 417, 410.
— in Europe, 410.
Turkish Arabia, 424.
— Islands, 413, 420.
Turk's Island, 156.
Tuscany, 389.
Tyrol, 274.

Ukraine, the, 444.
Umbria, 389.
United States of North America, 503.
Upernivik, 195.
Upper Austria, 274.
— Guinea, 573.
— Niger, 348.
— Tartary, 487.
Uruguay, 553.
Usagora, 259.

Valetta, La, 105.
Valparaiso, 556, 557.
Vancouver Island, 148.
Vanua Levu, 146.
Venetia, 389.
Venezuela, 563.
Vera Cruz, 537, 541.
Victoria, 136, 138.
Virgin Islands, 156.
Viti Levu, 146.
Volga, 442, 456.
Volhynia, 445.
Vorarlberg, 274.

Wadai, 574.
Walachia, 399, 401.
Waldeck-Pyrmont, 235.
Wales, 79.
Walfish Bay, 126.
Wallis Islands, 353.
Warsaw, 445, 453, 458.
Wellesley, 121.
Wellington, 146.
West African Settlements, 132.
Western Australia, 136.
West Indies, British, 156.
— — Danish, 196.
— — Dutch, 181.
— — French, 354.
— — Independent, 564.
— — Spanish, 374.
White Russia, 445.
Wight, Isle of, 79.
Windward Islands, 156.
Witúland, 259.
Württemberg, 249.

Yanaon, 350.
Yeddo, 489.
Yemen, 424.
Yezo, 489.
Yokohama, 489, 492.
Yuruari, 159.

Zanzibar, 577.
Zebu, 372.

INDEX OF PRODUCTS AND MANUFACTURES.

THE leading natural productions (chief cereals, minerals, etc.) and the larger manufactures (textile, metallic, etc.) which are treated in special sections in the text, are not included in the present index.

Agates, 549.
Alerce, 557.
Alizari, 421.
Aloes, 131, 538.
Alpaca, 560.
Alum, 195, 283, 429, 520, 569.
Amber, 451, 480.
Amethysts, 549.
Anchovies, 392.
Angora hair, 130, 421.
Anise-seed, 218.
Arack, 115.
Archil, see *Orchilla*.
Areca-nuts, 121, 178, 351.
Arrow-root, 155, 159, 581.
Artists' colours, 482.
Asphalt, 256, 283, 310, 421.
Assafœtida, 486, 498.
Attar of roses, 115, 415, 499.
Avignon-berries, see *Yellow-berries*.

Balm, 124, 425, 502.
Bamboo, 122, 179, 480.
Bananas, 146, 353, 428.
Batatas, 538.
" Battiks," 176.
Bêche de Mer, see *Trepang*.
Beer, 94, 247, 254.
Benzoin, 179.
Birds' nests, edible, 176, 179.
Boracic acid, 394.
Borax, 520.
Boxwood, 467.
Brazil-nuts, 543, 560, 562.
Brazil-wood, 538, 549.
Bread-fruit, 353.
Bristles, 449.
Buckthorn, 498.
Burnous, 567.
Butter-tree oil, 179

Cacao, 157, 159, 179, 181, 349, 355, 382, 538, 543, 548, 560, 564, 565.
Cajeput oil, 179.
Calicoes, 167.
Camellias, 490.
Camel's hair, 421.
Campeachy-wood, 538, 543.
Camphor, 179, 351, 480.
Caoutchouc, 132, 159, 179, 349, 355, 538, 543, 549, 560, 562, 572, 580. (See also *India-rubber.*)
Caraway, 218.
Cardamoms, 494.
Carpets (Eastern), 415, 424, 466, 499, 567.
Cashmere goats' hair, 486.
Cassava, 548.
Castor-oil, 179.
Catechu or Cutch. See *Gambier*.
Caviare, 450, 460, 467.
Cayenne pepper, 355.
Cedar, 421, 538, 543, 549.
Charqui, 549.
Cheese, 85, 310, 335, 395, 517.
Chicory, 165.
Chilian cedar, 559.
China-clay, 480.
Chocolate, 367.
Chrome, 353.
Cigars, 239, 241, 247, 376.
Cinchona, see *Peruvian bark*.
Cinnabar, 292.
Cinnamon, 121, 176, 178.
Citric acid, 394.
Clothing, 293, 525.
Cloves, 178, 349, 577.
Cobalt, 353.
Cochineal, 176, 181, 364, 372, 538, 543.
Coco-nut oil, 112, 121, 131, 353, 494, 576.
Cod, 151, 166, 202, 354, 518.
Coffee, 121, 124, 131, 155, 157, 158, 159, 176, 178, 181, 349, 351, 353, 355, 373, 377, 382, 383, 502, 538, 543, 548, 560, 564, 565, 572, 579, 580, 581.
Colophony, 326.
Copal, 373, 576, 577.
Copper, 87, 105, 127, 139, 144, 351, 353, 365, 407, 465, 537, 560, 564, 574.
Copra, 146, 582.
Coral, 392, 429, 502.
Cork, 346, 363, 368, 391, 567.
Cotton, 105, 111, 131, 137, 159, 348, 349, 353, 355, 377, 383, 384, 391, 414, 421, 428, 435, 465, 480, 502, 538, 548, 560, 564, 567, 572, 580–582.
Crucibles, 225, 246.
Curo-nuts, 574.
Currants, 435.

Dairy produce, 84, 166, 192, 236, 310, 451. (See also *Cheese.*)
Dates, 346, 425, 428, 498, 502, 567.
Diamonds, 113, 127, 168, 180, 549, 576.
Dragon's-blood, 131, 179.
Dresden china, 231.
Drugs, 131, 292, 421, 428, 548, 579.
Durrah, 502, 566.
" Dutch" clocks, 251, 254.
Dye-woods, 564, 565. (See also *Fustic*, etc.)

Earth-nuts, see *Ground-nuts*.
Ebony, 179, 538.
Eider-ducks, 194, 195.
Emeralds, 451, 549.
Emery, 436.
Esparto, 363.
Euphorbium, 567.
Extract of meat, 554.

Fezes, 288, 415, 567
Figs, 420.
Filigree, 422, 466.
Fish, 85, 151. (See also *Cod, Herrings, Sturgeon*, etc.)
Flax, 145, 165, 184, 414, 421, 428, 447, 515, 548, 557.
Flowers, 165, 219, 324, 490.
Frankincense, 421. (See also *Incense.*)
Frozen meat, 146, 159.
Fruit, 84, 137, 144, 146, 325, 391, 420, 465, 498, 557.
Furs, 151, 196, 454, 517, 533.
Fustic, 376, 562.

"Gaitans," 405.
Galena, 283.
Gall-nuts, 420, 437.
Gambier, 121, 122, 178.
Gin, 168.
Gingelly, see *Sesamum-oil*.
Ginger, 157, 178.
Ginseng, 485, 486.
Glass, 93, 185, 225, 289, 394.

Gold, 130, 139, 144, 145, 152, 179, 181, 282, 351, 355, 450, 470, 486, 488, 518, 533, 543, 537, 560, 569, 572–576.
Goldsmiths' work, 254, 332, 367.
Grain, 84, 111, 137, 144, 145, 165, 257, 372, 447, 460, 465.
Graphite, 121, 246, 283, 470, 480, 533.
Ground-nuts, 132, 348, 382, 573.
Guano, 130, 354, 558–560
"Guineas" (cloth), 573.
Gum arabic, 428.
Gums, 122, 326, 572, 573, 579. (See also *India-rubber*, etc.)

Hair (human), 485.
Hashish, 498.
Hemp, 373, 391, 421, 428, 448, 515, 567.
Henequen, 538.
Herrings, 151, 166, 202, 220, 449.
Hickory, 416.
Hides, 122, 130, 146, 159, 176, 373, 382, 429, 494, 543, 554, 562, 564, 577, 580.
Honey, 376, 382, 579.
Horns, see *Hides* and *Rhinoceros horns.*
Horses, 84, 166, 237, 346, 425, 549.

Ice, 155.
Iceland-moss, 195.
Incense, 124, 425, 428, 502. (See *Frankincense.*)
India-rubber, 124, 132, 348, 383, 430, 572, 574. (See also *Caoutchouc.*)
Indigo, 112, 137, 155, 157, 159, 176, 179, 350, 351, 373, 382, 428, 543, 572, 580.
Inlaid metal-work, 482, 491.
Iridium, 451.
Ironwood, 179, 538.
Isinglass, 450, 460, 465.
Ivory, 132, 179, 346, 348, 349, 429, 430, 572–7, 579.
— (fossil), 470.

Jade, 480.
Jalap, 538.
Jewelry, 312, 332, 524.
Jute, 112, 515.

Kaolin, 480.
Kauri gum, 145.
Kermes, 567.

Lace, 186, 230, 332.
Lacquer-ware, 482, 491.
Lama wool, 560.
Lapis lazuli, 451.
Lead-pencils, 247.
Leather goods, 233, 290, 334, 367.
Leeches, 414, 467, 567.
Lemnian earth, 421.
Lemons, 391.
Limes, 146.
Linseed-oil, 333.
Liqueurs, 168, 334.
Lithographic stones, 246.
Logwood, 158, 355.

Mackerel, 327, 392, 518.
Madder, 324, 391, 421, 428, 465, 498, 557.
Mahogany, 157, 158, 538.
Maize, 353, 390, 401, 414.
Malachite, 451.
Manganese, 283.
Manioc, 548.
Manna, 425.
"Mantas," 539.
Maple-sugar, 153.
Marble, 246, 347, 392, 436.
Mastic, 421, 498.
Matches, 207.
Maté, 548.
Meat, 516, 554.
— Extract of, 554.
— Frozen, 146, 159.
Meerschaum, 421, 451, 480.
— goods, 291.
Merino wool, 363.
"Mezcal," 538.
Mohair, 421. (See *Angora hair.*)
Molasses, 157, 375, 377.
Morocco leather, 567.
Mother-of-pearl, 354, 373, 431, 543, 582.
Mulberries, 278, 435.
Muscat-nuts, 121, 351.
Musical boxes, 254, 312.
— instruments, 293, 395.
Musk, 179, 435, 486.
Mustard, 218.
Myrrh, 425.

"Nankeens," 480.
Naphtha, 283, 421. (See also *Oil, Mineral.*)
Natron, 569.
New Zealand flax, 145.
Nickel, 353.
Nitre, 520, 557, 560, 569.
Nutmegs, 178.

Obsidians, 195.
Oil, animal, 151.
— mineral, 283. (See also *Petroleum* and *Naphtha.*)
— vegetable, 112, 292, 346, 581. (See also *Linseed-oil*, *Olives*, *Rape-oil*, etc.)
Oil-seeds, 132, 218, 350.
Olives, 278, 292, 333, 362, 391, 420, 435, 557.
"Omuls," 470.
Onyxes, 451.
Opals, 283
Opium, 112, 421, 480, 498. (See also *Poppies.*)
Oranges, 353, 362, 382, 391.
Orchilla, 372, 382, 577.
Ostrich feathers, 127, 346, 429, 430, 572.
Otto of roses, see *Attar*.
Oysters, 327, 392.

Palm-oil, 132, 179, 348, 349, 572–576.
"Panama" hats, 560, 562.
Paraguay tea, 548.
Peaches, 420.
Pearls, 113, 121, 139, 502, 541, 579.
Pepper, 112, 121, 122, 176, 178, 351, 355, 538, 573, 580.
Perfumery, 292, 333, 347.
Peruvian bark, 112, 121, 176, 383, 543, 549, 560, 562.
"Peshm," 486.
Petroleum, 145, 152, 283, 402, 429, 465, 520.
Phormium, 145.
Pimento, 157.
Pine-apples, 146, 155.
Platinum, 450.
Pomegranates, 420.
Poppies, 488. (See also *Opium.*)
Porcelain, 481.
Pork, 517.
Porphyry, 429.
Precious stones, 121, 283, 480, 549. (See also *Diamonds*, *Emeralds*, etc.)
"Pulque," 538.
Pumice-stone, 195.

Quercitron, 416.
Quicksilver, 282, 365, 480, 518, 539, 560.
Quinine, 121, 383. (See also *Peruvian bark.*)

Raisins, 420, 498.
Rape-oil, 292, 333.
Rattans, 179.
Resin, 159, 179, 549, 580.
Rhinoceros horns, 179, 430.
Rhubarb, 480, 486, 498.
Rice, 111, 122, 175, 178, 349–353, 373, 384, 390, 428, 479, 494, 543, 548, 577.
Rocou, 355.
Roses, 421, 428, 498. (See also *Attar of roses.*)
Rosewood, 538, 549.
Rubies, 549.

Rum, 131, 157, 181, 355, 377.
Russia leather, 454.

Sables, 485.
Saffian leather, 567. (See *Turkey leather.*)
Safflower, 431, 498.
Saffron, 179, 324, 346, 363, 391, 421, 465, 498.
Sago, 122, 178.
Salangane nests, 179.
Salt, 87, 221, 378, 379, 382, 451, 465, 520, 569, 574.
Saltpetre, see *Nitre.*
"Samovars," 454.
Sandal-wood, 112, 179.
Sandarach-tree, 567.
Sapan-wood, 179, 373, 494.
Sardines, 327, 392.
Sarsaparilla, 538, 543.
Scythes, 289.
Sealskins, 151, 196, 518, 533.
Senegal gums, 573.
Senna, 430.
Sepia, 482.
Sesame, 494, 498, 577.
Sesamum-oil, 112.
Shawls (eastern), 114, 422, 498.
Sheat-fish, 449, 465, 470.
Shellac, 113.
Silk, 91, 113, 124, 288, 312, 330, 392, 401, 421, 480, 491.
Silver, 139, 234, 235, 282, 351, 436, 465, 470, 518, 539, 543, 557, 560.
Skins, 176, 429, 543, 576.
Slivovitz, 278, 302, 407.
Soda, 429, 451.
Spermaceti, 525.
Spices, 112, 131, 348, 425. (See also *Cinnamon*, *Myrrh*, etc.)
Sponges, 157, 421, 429, 502.
Sturgeon, 449, 460, 465, 470.
Sugar, 94, 105, 112, 121, 130, 131, 137, 146, 157, 158, 159, 176, 181, 349, 351, 353, 355, 372, 375, 377, 383, 391, 428, 494, 502, 538, 543, 548, 560, 567, 572, 581.
Sulphur, 195, 283, 372, 392, 429, 436, 520.
Swallows' nests, edible, 179.
Sweet-potatoes, 353.
Syenite, 429.

Tallow, 146, 159, 455, 554.
Tamarinds, 176.
Tapioca, 548.
Tartar, 292.
Tartaric acid, 394.
Tea, 112, 121, 124, 137, 176, 351, 480, 490.
Teak, 112, 176, 179, 494.
Thorn-apple, 498.
Tiger skins, 176, 179.
Tobacco, 137, 144, 155, 157, 159, 165, 176, 179, 253, 346, 349, 351, 353, 355, 372–377, 391, 401, 420, 435, 448, 498, 548, 565, 567.
Topazes, 451, 549.
Tortoises, 549.
Tortoise-shell, 157, 373, 382, 431.
Tourmaline, 549.
Trepang, 179, 373.
Tunnies, 327, 392.
Turkey leather, 415, 422, 454, 567.
Turkey yarn, 415, 424.
Turmeric, 176, 179.
Turpentine, 326.
Turquoises, 498.

Ultramarine, 292.
Uranium, 283.

Vanilla, 131, 349, 353, 538.
Vegetables, 84, 155, 158, 165, 325.
Vitriol, 283.
"Vodka," 455.

Walnut-wood, 465.
Watches, 312, 332, 524.
Wax (bees'), 376.
— (vegetable), 130, 382, 575.
Whales, 195, 518.
Wheat, 111, 137, 144, 145, 257, 414, 460.
Whetstones, 185.
White-lead, 292.
Wine, 105, 130, 219, 233, 246, 253, 256, 278, 324, 362, 372, 379, 382, 391, 401, 414, 421, 428, 435, 448, 465, 516, 557.
Woad, 324, 363.
Wooden goods, 203, 207, 251, 254, 291.
Wool, 85, 130, 138, 143, 144, 159, 449, 554, 576.

Yams, 353.
Yellow-berries, 421, 498.

Zinc, 185, 220, 451, 519.

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